ABSTRACT

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Title: The Role of Motivational and Attitudinal Variables in Second Language Acquisition

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ABSTRACT

This study assesses Gardner's socioeducational model of second language acquisition in elementary school students. A sample of 120 elementary school participants from 4th, 5th, and 6th grades responded to items on a Spanish version of the Attitude/Motivation Test Battery adapted for this study, and the Modern Language Aptitude Test. The scores of the ACCESS for ELLs were used as a measure of second language acquisition. Confirmatory factor analysis (CFA) was used to assess the adequacy of six measurement models: language aptitude, language-learning strategies, language attitudes, motivation, confidence, and second language achievement. The confirmatory factor analyses confirmed that the measurement models adequately represented the theoretical constructs.

The relations among the factors were assessed in a full structural model using structural equation modeling. The first assessment of the model showed a large discrepancy and an overall lack of fit. A modification of this model improved fit somewhat, but still failed to attain established goodness of fit criteria. A multiple regression analysis revealed that contrary to the predictions of the model for adult learners, aptitudinal variables are better predictors of second language achievement than motivational variables when the learners are elementary school children. Additional analyses revealed very limited effects of gender and age on language achievement, the use of language strategies, and motivational variables.

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Possible adaptations to improve the fit of the model in elementary school students include clarifying the role of language-learning strategies in a second language academic setting and further theoretical elaboration of the variables in the motivation factor. Future studies would benefit from a better specification of the factor confidence, maintaining the measures of language aptitude, and attitudinal variables. Additional variables for inclusion in the model are cultural influences, measures of proficiency in the first language, and willingness to communicate as a language outcome. The inadequate fit of the socioeducational model in the present study is interpreted in the context of the paucity of studies with elementary school participants.

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THE ROLE OF MOTIVATIONAL AND ATTITUDINAL VARIABLES IN SECOND LANGUAGE ACQUISITION

A DISSERTATION SUBMITTED TO THE GRADUATE SCHOOL

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

FOR THE DEGREE

DOCTOR OF EDUCATION

DEPARTMENT OF LITERACY EDUCATION

BY

RICARDO ESPINOSA

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CHAPTER 1

INTRODUCTION

The acquisition of a second language has been conceptualized by much of the research in the past century as a purely cognitive phenomenon, as if second language acquisition (SLA) happened out of context and by a completely autonomous learner. Atkinson (2002) uses the metaphor of a lonely cactus in the middle of a desert to describe how this type of research describes the situation of second language learners. According to Atkinson, much of the research on language acquisition of the late 20th century abstracts language from its social setting to obtain facts about language that respond more to logic and calculus than to the social interaction which is the primary function of any language. This reductionist vision of language can explain its grammar, but, according to Atkinson, it cannot account for social characteristics of language like politeness, identity and presentation of self, perspective taking, contextualization cueing, language-in-context, turn-taking, participation structures, opportunity structures, speech as an interactional accomplishment, and social indexicality. Whether this view is the result of researchers trying to raise the field of language acquisition to the same scientific level of its source disciplines, cognitive psychology and linguistics, or a true

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reflection of the researchers' views, second language research and practice has felt the influence of this approach.

More recently, researchers have found that a number of affective variables can also affect SLA. The most studied of these variables has been foreign language anxiety (Horwitz, Horwitz, & Cope, 1986). The presence of anxiety seems to have the potential to improve or interfere with language acquisition. This line of research has incorporated the context in which language acquisition takes place and the attitudes of the learner in the explanation of SLA. As a result, purely cognitive explanations are now seen with reservations. In a recent article Sparks, Ganschow, and Javorsky (2000) took the side of cognitive variables, and Horwitz (2000) the side of affective variables as causal factors in SLA. Sparks and his associates warn that if anxiety and other affective variables are accepted as the source of foreign language proficiency differences, teachers and researchers will stop seeking methods that help students develop their cognitive abilities. Horwitz replied that those concerns are based on an outdated understanding of foreign language classrooms and how learners acquire a second language.

The effects of research like this affects what is considered best practices in bilingual and English as second language classrooms in the country. Classrooms with bilingual students are subject to several demands. Content testing requires students to make progress in areas like reading, writing, math, science, and social studies. This is an important enough burden for students in monolingual classrooms to justify special measures to reduce their anxiety (Casbarro, 2004). Additionally,

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bilingual students face language testing by which their language proficiency is measured in reading, writing, listening, and speaking, regardless of the time students have had to learn the target language.

Instructional models proposed as a solution to quickly achieve the levels of performance required by the No Child Left Behind Act (2001), like the Cognitive Academic Language Learning Approach (Chamot & O'Malley, 1994), also add to the already high demands on students. The focus on authentic tasks, on learning English through content, on actively participating, and on asking questions in a language they do not yet command means, for the learners, exposing their weaknesses in the presence of strangers. The pressure on second language learners to master English as soon as possible can magnify the debilitating effects of anxiety (Hancock, 2001). Knowing foreign words and forming sentences is not enough in a modern English as a second language classroom. The socioeducational model (Gardner, 1988) is an attempt to take into account attitudes, motivational variables, and the social context in explaining how learners acquire another language.

Problem Statement

As discussed in the section titled Population and Sample in Chapter 3, the population of this study, bilingual students who are native Spanish speakers, has been growing rapidly in the last few years and will continue to do so. For this population, acquiring English as second language is a complex task. A deficient understanding of how this process works will hinder the efforts made by teachers and

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impact negatively the progress in English acquisition of these students. The socioeducational model emphasizes the influence of motivational and social variables in second language acquisition. Although the socioeducational model has been the focus of various studies to test its adequacy in predicting SLA (Au, 1988; Onwegbuzie, Bailey, & Daley, 2000), studies testing the validity of the full model are scarce (Gardner, Tremblay, & Masgoret, 1997). Most of the studies related to the socioeducational model have been conducted with college students (Masgoret & Gardner, 2003). No study has assessed the validity of the model in elementary students. This study assessed the validity of the socioeducational model in elementary school students. The problem this study addressed was the lack of evidence of the validity of the socioeducational model in elementary school children.

Purposes

This study has three purposes. The first was to analyze the variables included in the socioeducational model to find out if there is a factor structure consistent with it. The second was to investigate their relations and quantify their contributions to SLA. The third was to evaluate the adequacy of fit of the variables in a causal model and interpret these relations according to the socioeducational model.

Research Questions

There are seven research questions derived from the purposes of this study.

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1. What is the adequacy of each of the measurement models used in the socioeducational model, when the learners are elementary students?
2. How well does the proposed structural model explain SLA?
3. What is the specific nature of the relationship among the latent constructs used in the structural model?
4. Are motivational variables better predictors of SLA than aptitudinal variables?
5. Is integrative orientation a better predictor of SLA than instrumental orientation?
6. Are there gender differences in SLA?
7. How does age affect attitudinal variables in elementary school students?

Conceptual Framework

Research on SLA was, for a long time, obscured by the idea that it was similar to first language acquisition (Davies & McKeon, 2002). This misconception originated unsupported parallels between acquiring the first and second languages. One such parallel is that since first language acquisition occurs during childhood, children are better at learning a second language than adults.

Research into the differences between first and second language acquisition showed that affective variables can affect the acquisition of a second language. Generally, a positive affect will enhance it, while negative ones will hinder it (Richard-Amato, 1996). Positive attitudes toward self, like self-esteem and self-

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confidence, lead to higher performance in the second language. Similarly, positive attitudes towards the target language and the people who speak it also improve SLA.

A widely used model to explain the role of affective variables in second language learning is the socioeducational model (Gardner, 1988). This model emphasizes the role of attitudes and motivation in foreign language learning, also incorporating the educational setting. According to this model, SLA is the result of motivational and attitudinal variables. Motivation in turn is affected by the learner's affective factors and attitudes towards the second language.

Gardner (1988) distinguishes between integrative and instrumental motivation. The first refers to the wish to identify with the target group, including participating in activities that require mastering the language and establishing friendships. Instrumental motivation seeks the utilitarian value of the target language, since its command may bring money, career prospects, passing exams, or the possibility of assisting children with schoolwork. In general, language achievement has been linked more to integrative than to instrumental motivation. Thus, a student wanting to spend time in an English-speaking country will be more successful than an employee sent by his employer to an English class.

The socioeducational model proposes five hypotheses that integrate the social context and place motivation as the most important variable in acquiring a second language. The first hypothesis states that integrative motivation and second language achievement are correlated positively. The second integrates cultural beliefs in the development of integrative motivation. The third hypothesis concerns

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the effect of integrative motivation on the learner. According to this hypothesis, an integratively motivated student is successful because he or she is an active learner. The fourth maintains that in a model explaining SLA, integrative motivation is the cause and language achievement is the effect. The last hypothesis keeps aptitude and integrative motivation as independent factors in language learning. This means that we can find learners with high aptitude and low integrative motivation and vice versa, as well as students with high levels on both, or low on both. According to the model, students with high integrative motivation will be more successful than those with high aptitude only.

The model also allows the effect of anxiety and the perception of self-competence. In the socioeducational model, anxiety is one of the variables that cause individual differences in acquiring a second language. According to the model, the effects of anxiety are as important as the effects of integrativeness, attitudes toward the learning situation, and motivation. Perceived competence is the result of the continual self-assessment with which students evaluate their own skills in a second language. This self-assessment helps to develop strategies to improve those skills. Perceived competence is a result of the relation between actual competence and second language anxiety. In a study with adult learners, MacIntyre, Noels, and Clement (1997) showed that the more anxious students tended to underestimate their performance in the second language. In this study the authors found that self-perception of competence and actual competence are correlated with the amount of output produced in the second language and the quality of that output.

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In a further development of the socioeducational model, Gardner, Tremblay and Masgoret (1997) measured several variables theoretically consistent with the model, including motivational and attitudinal variables, language aptitude, anxiety, field dependence, language learning strategies, and self-confidence, and performed a factor analysis to test the underlying structure of the model. Using structural equation modeling to analyze the relations between variables and their contribution to SLA, the authors found five factors that contribute to second language achievement: self-confidence, language learning strategies, motivation, language aptitude, and orientation to learn. The structural model showed relations that validate the socioeducational model in college students.

The socioeducational model emphasizes the importance of including social, motivational, and attitudinal variables in any model that wishes to explain SLA. Another contribution of Gardner's original model is that it considers students as active in all aspects of SLA. Students are not the passive and isolated recipients of incentives and witnesses to the development of their own motivation, as in behaviorist approaches. Rather, students' motivation and desire to learn the second language and the satisfaction they get from it are central to the model. As with any scientific model, this is not a final or definitive model of SLA, but it has many of the characteristics a final model would have (Gardner, 2001a). These characteristics include plausible interpretations, testable elements, concepts that are operationally defined, and the capacity of suggesting future research. The present study assessed the validity of the socioeducational model in elementary school children.

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Significance of the Study

The bilingual population in the U.S. has increased in number and will continue to grow for the foreseeable future. In the school year 2004-2005, more than five million ELLs were enrolled in grades Pre-K through 12, or about 10% of the total enrollment for that year. Hispanic children will represent more than one quarter of the enrollment in those grades by the year 2050 (National Clearinghouse for English Language Acquisition & Language Instruction Educational Programs, 2006b).

Knowing what variables influence SLA and their interactions has several important implications. At the theoretical level, the evidence of how affective, social, and attitudinal variables interact in elementary school children will help educators to understand how they acquire a second language. The participants in this study were elementary school students. The age of the participants allowed understanding the early development of the structure described by the socioeducational model. For example, according to the model, integrative and instrumental motivations have different roles in the acquisition of English in adults. The difference between these two types of motivation depends on the perception of the benefits of acquiring a second language. The age of the participants in this study also allowed understanding whether they perceive these two types of motivation. Increased insight into SLA can be used to understand better the situation of second language learners.

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The contribution of this study will be original for two reasons. As mentioned before, most of the research cited above has been conducted with college students. The characteristics of college students and classrooms are very different from those of elementary students and classrooms. College students already have mechanisms to cope with affective situations as well as time and experience to select those strategies that work for them in school (Gardner, Tremblay, & Masgoret, 1997). Elementary school students are early in the process of developing those strategies, along with attitudes towards the target language and the target group of native English speakers. Also, the challenges in an elementary school classroom are very different from those found in a college setting. The socioeducational model does not predict differences due to age. However, the two alternatives, that the relation between attitudes, motivation, and achievement becomes stronger with age, or that it becomes weaker, are considered valid hypotheses by Gardner and his associates (Masgoret & Gardner, 2003).

The second difference with most prior studies is that most are conducted in a foreign language context. In second language learning, the students are immersed in the dominant language culture, and the presence of the target group is constant. In contrast, most students in foreign language classes have a choice of languages, spend only a limited amount of time studying the language, and their contact with the target group is restricted, if there is any. The socioeducational model does not predict any difference between second and foreign language acquisition (Gardner, 1988; Masgoret & Gardner, 2003).

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The socioeducational model can make pertinent contributions to instruction, some of which may disagree with the current emphasis on content-based instruction of the English language, competency-based instruction, accountability, and the pressure to perform well in public in language learning activities and proficiency tests. Under the socioeducational model, second language instruction should focus on activities that make learning English intrinsically motivating and preserve the positive attitudes towards both the target language and the target group. Situations in which students can experience success should be at the core of each lesson.

Delimitations

Selecting the variables for this study necessarily left out other variables. In his original model of motivation, Gardner included six variables for the affective factor, six for intrinsic motivation, and six for extrinsic motivation, in addition to variables for attitudes towards the group and the language. Studies using this model have added even more. The final model for the present study included only a small subset of those variables, the ones that the literature supports as relevant in elementary school students. Variables that are important to SLA according to other models may not be included in this study. Some of them might be as relevant to SLA as the ones included. The criteria for including variables, however, are not arbitrary. The socioeducational model uses affective, attitudinal and social variables to explain SLA, leaving most cognitive variables in a minor role. The variables in

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this study are the ones that have been tested as part of the model, and that play an important role with elementary school children.

An additional delimitation is the sample for the present study. The model has not been assessed in elementary school students. The interpretation of the results of the present study will consider the developmental differences between the samples used in this study and those of previous studies.

Assumptions of the Study

Assumptions referring to the method used in this type of study include that self-report scales are an accurate method of measuring attitudinal variables and that the effects of the variables included in the study have additive effects on SLA. Some theoretical assumptions were also made. The first is that there is a causal relation that goes from the affective and cognitive variables to SLA, and not the other way around. One final assumption is that the variables selected are the most relevant for elementary school students.

Definitions

The definitions presented in this study are generally agreed upon by researchers in this line of research (Gardner, Tremblay & Masgoret, 1997; O'Malley, Russo, Chamot, Stewner-Manzanares, & Kupper, 1985).

1. Attitudes toward group: the evaluative reaction to the second language community.

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2. Attitudes toward learning English: the evaluative reaction towards learning the second language.
3. Desire to learn English: the manifest desire to learn English as a second language.
4. English class anxiety: the feeling of apprehension, worry or fear when called upon to use English in a formal classroom environment.
5. English class evaluation: the subjective assessment of the characteristics of the English classroom.
6. English use anxiety: the feeling of apprehension, worry, or fear when using English in real social situations.
7. Instrumental orientation: the degree to which students seek to learn English for pragmatic reasons.
8. Integrative orientation: the extent to which an individual seeks to learn English in order to learn about, interact with, or become closer to, the second language community.
9. Interest in foreign languages: the interest in learning and using any second language.
10. Language aptitude: the ability to learn a new language quickly and to a high degree of proficiency.
11. Language learning strategies: the specific behaviors or techniques learners use to improve any aspect of their language development.

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a. Affective strategies: allow students to control their own feelings and attitudes.

b. Cognitive strategies: refer to the manipulation of the target language by the learner.

c. Compensation strategies: enable students to use the target language for comprehension or production, despite limitations in knowledge.

d. Memory strategies: facilitate the storing and retrieval of information.

e. Metacognitive strategies: allow the learners to control their own cognitions.

f. Social strategies: allow students to use language as a form of social behavior, and to communicate with other people.

12. Motivational intensity: the amount of effort the learner is willing to spend in order to learn English.

13. Teacher evaluation: the subjective assessment of the characteristics of the teacher.

14. Second language achievement: a measure of the degree of proficiency in speaking, listening, reading and writing in the second language.

15. Self-confidence: the learner's belief that he or she can achieve mastery in the second language.

Method

This was a correlational study. Its intention was to investigate the adequacy of the socioeducational model in elementary school students. The instrument used to

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collect the independent variables for this study was a questionnaire containing a scale for each variable and questions for demographic variables. The questionnaire was administered by the classroom teachers and the researcher. The values of the dependent variable, second language achievement, were obtained from the Assessing Comprehension and Communication in English State-to-State for English Language Learners, also known as ACCESS for ELLs, a standardized test of English proficiency administered by the school district.

The data analysis assessed the correspondence between the causal relations found in the data and the ones predicted by the socioeducational model. The best statistic for this type of study is structural equation modeling.

Organization

Chapter 2 of this study presents the literature on the models assessed in this study. Chapter 3 outlines the methodology, including data collection and analysis. The results are presented in Chapter 4 and the conclusions and implications of the study are presented in Chapter 5.

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CHAPTER 2

LITERATURE REVIEW

The acquisition of a second language is a complex phenomenon because it involves a large number of variables and their relations. In order to explain how second language acquisition takes place, studies conducted in the early 1970s focused their attention on the nature of the linguistic input and the SLA environment. In these studies, the characteristics of the learner were not as important as the characteristics of the language and the setting where the learning took place. Attention to personal characteristics of the learner was improved by models like the Iceberg Analogy (Cummins, 1981), the Threshold Theory (Skutnabb-Kangas, 1977), and Krashen's monitor model (Krashen & Terrell, 1983). These models used the cognitive characteristics of the learner to explain individual differences in SLA. In the Krashen model, affective variables are seen as potential barriers to SLA. Authors like Sparks and Ganschow (1991, 1995) argue that native language factors are the most important variables involved in second language learning. To them, low motivation, poor attitude, or high levels of anxiety are only manifestations of deficiencies in the control of one's native language. Although the findings of these authors seem to contradict the socioeducational model, their implications are limited because their intended population includes only students with language development

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problems in the first language. Another limitation of these studies is the small and intentional samples used by the authors. These models influenced instruction at many levels and still provide a framework for basic research. However, they do not explain the role of motivational, attitudinal, and social variables in SLA.

The Socioeducational Model

Gardner has elaborated several versions of his socioeducational model (Gardner, 1979; Gardner, Lalonde, & Pierson, 1983; Gardner, Tremblay, & Masgoret, 1997). These studies have primarily used Canadian college students. The belief behind this model is that the acquisition of a second language is better understood as a social-psychological rather than a cognitive or purely educational phenomenon.

The socioeducational model recognizes the complexity of the learners and the task of learning a new language (Gardner, 1988). Accordingly, the model does not intend to explain all or most of the variance in SLA, but only to explain existing findings and possible processes that could be operating in SLA. The model is empirical and the variables used in it have been operationalized and measured consistently. All the hypotheses suggested by the model can be tested and the model has been successful in originating new research.

As developed by Gardner, the model considers four distinct components of SLA: the social milieu in which the learning takes place, the individual differences variables (intelligence, language aptitude, anxiety and motivation), the language-

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acquisition context, and linguistic and non-linguistic outcomes (Au, 1988). The social milieu is important because it creates beliefs that affect both integrativeness and the evaluation of the learning situation. The two individual difference variables that affect SLA are motivation and language aptitude. Motivation is more important than aptitude in informal settings because it determines how much effort the learner will spend in learning the second language. In an informal setting, a motivated learner will actively seek experiences in the second language, such as watching TV shows in that language. In more formal settings, such as a school classroom, aptitude can have a more prominent role because the setting provides experiences in the second language, but motivation is still what determines if the student takes advantage of the opportunities to learn the language. The final element in the model is the outcomes of the SLA process. Linguistic outcome is the level of language knowledge and language skills achieved by the learner. Non-linguistic outcomes include interest in the language, the desire to learn more, and the desire to use it. Even though Gardner has modified his model on several occasions, as recently as 2001 (Gardner, 2001a), the elements described above have remained the same.

Social Milieu

One of the characteristics of the socioeducational model is that it allows cultural beliefs to influence attitudes towards the target group and language, which in turn affect SLA. Some of the beliefs that have been hypothesized as influencing the beliefs of second language learners are ethnocentrism, anomie, and ethnolinguistic

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vitality (Au, 1988; Gardner, 1988). This aspect of the model has not been included in the empirical studies using the socioeducational model, mainly because the effects of cultural beliefs on individuals are difficult to evaluate.

Individual Differences

Under the socioeducational model, attitudinal and motivational variables are directly linked to success in SLA. In particular, aptitude and motivation determine how much effort the learner will invest in learning the language. But the model also allows the influence of other personality variables that can facilitate or interfere with SLA.

Integrative Motivation

The term integrative motivation is a construct used to explain a complex set of attitudes and motivation that tend to act together and correlate to each other. In the model, the three components of this concept are integrativeness, attitudes toward the learning situation, and motivation.

Integrativeness is the first component of integrative motivation. It refers to the desire to identify with another language community (Gardner, 1988; Masgoret & Gardner, 2003). This concept was necessary in order to include in the model the desire of individuals to adopt sounds, words, word orders, and other characteristics of a different culture, and to reflect the role of attitudinal variables as precursors of motivation (Tremblay & Gardner, 1995).

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A high integrativeness implies an openness to the characteristics of the second language and culture that makes it easier to be motivated and learn the language. Studies using the socioeducational model use three scales to measure integrativeness (Gardner, Tremblay, & Masgoret, 1997; Masgoret & Gardner, 2003). The first is the attitudes toward the target language. It is expected that a high score in this scale would facilitate the openness required by integrativeness. The second is integrative orientation, which refers to the desire to interact, meet, socialize, and become friends with members of the second language community. Again, a high integrative orientation would mean that the individual is more open and, therefore, more motivated to learn the language. The third scale is interest in foreign languages. The difference with the first scale mentioned, attitudes toward the target language, is that this scale measures interest in languages in general, not in a particular language. It is possible that some individuals may have interests in a particular language, but not in all languages in general.

The second component, attitudes toward the learning situation, refers to the reaction of the individual toward the immediate context in which the second language is taught. In elementary schools, this variable is influenced by the particular situation of each classroom. There are two scales that assess attitudes toward the learning situation, evaluation of the course, and evaluation of the teacher. According to the model, of the many variables that can affect the attitudes of students, such as evaluation of the text, the learning materials, or the classmates, the

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evaluation of the course and the teacher, explain most of the total variation caused by those variables.

According to the socioeducational model, the next component, motivation, is the variable most responsible for achievement in second language acquisition (Gardner & Smythe, 1981; Masgoret & Gardner, 2003). The amount of motivation determines how much effort, desire, and affect an individual is willing to spend in learning a second language. Variables like integrativeness and attitudes toward the learning situation are also related to achievement in the second language; however, their role is to support motivation. The major role of motivation in the socioeducational model comes in part from the fact that, among a set of variables that included integrativeness and attitudes toward the learning situation, motivation has been consistently the best predictor of intention to continue studying French, grades in French, and objective indices of French proficiency (Gardner, 1988). In the model, motivation refers to behavior oriented toward the goal of acquiring a second language. Individuals motivated to learn the second language will display behavior, feelings, and cognitions aimed at acquiring the language. For example, motivated students will use the second language after the formal instruction ends, improving their retention of second language skills (Gardner & Lysynchuk, 1990). Unmotivated individuals will not exhibit these behaviors.

Integrative motivation can explain the persistence of students and their participation in the classroom (Clement, Smythe, & Gardner, 1978; Gliksman, Gardner, & Smythe, 1982). Masgoret and Gardner (2003) cite research that

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suggests that integrative motivation is more important for second language students than for foreign language students. Foreign language students can be driven more by instrumental reasons. Since this study was conducted with second language learners, integrative motivation is expected to contribute more to SLA than instrumental motivation.

There are two scales that measure motivation. Motivational intensity measures the amount of effort the individual makes to learn a language. The second scale is the desire to learn the target language; it measures the extent to which the individual wants to achieve a high level of competence in the language. In the present study, the relation between motivation and second language achievement was assumed to be direct and the most important of all links included in the model.

Orientations to Language Study

The socioeducational model makes a distinction between motivation and orientation to language study. The first was discussed above and refers to a desire to learn the second language. Orientations are reasons for learning another language. As in the case of motivation, the model suggests that some individuals have reasons that emphasize the notion of identification with the second language community. These reasons are called integrative orientation (Gardner, Tremblay, & Masgoret, 1997). On the other hand, instrumental orientations are the practical reasons for learning a language, but without implying any interest in getting closer socially to

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the language community. In college students there is a correlation between integrative orientation and intrinsic motivation (Noels, Clement, & Pelletier, 2001).

The distinction between orientation and motivation is supported by the argument of Masgoret and Gardner (2003) that there can be individuals with integrative orientations to learning a language, but who are not integratively motivated. These individuals would have reasons to learn the language, but not the desire to identify with the language community. Furthermore, this distinction would allow predicting that individuals with a predominantly instrumental orientation could learn more effectively than individuals with a predominantly integrative orientation. This could be especially important for foreign language learners because the scarce contact with the language community could result in attitudes that will never be entirely formed. The model predicts that integrative motivation will be more correlated to second language achievement, but it makes no predictions about integrative orientation.

Language Anxiety

Anxiety is an emotion characterized by feelings of tension, apprehension, and worry (Hockenburry & Hockenbury, 2000). When the cause of the anxiety is justified, it is normal and even helpful. In school, a small amount of anxiety about grades can motivate a student to try harder. Kleinmann (1977) identified two types of anxiety. Studying the behavior of Spanish and Arabic students he was able to identify facilitating anxiety and debilitating anxiety. Students with high facilitating

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anxiety used English language structures such as present progressive, infinitive complement, and direct object, which were usually avoided by students without facilitating anxiety. However, for highly anxious students, a self-assessment that shows their limitations can be demotivating (MacIntyre & Gardner, 1989). The process of acquiring a second language can be negatively affected by anxiety (Cheng, Horwitz, & Schallert, 1999; MacIntyre, Noels, & Clement, 1997; Rodriguez & Abreu, 2003). The source of this anxiety can be the production of oral language, reading, or taking tests. There is evidence of a gender difference in class anxiety in middle school Mexican English learners (Pappamihiel, 2001). While there are no differences in anxiety between boys and girls in an English as a second language classroom, girls are significantly more anxious than boys when they are in mainstream classrooms. The setting of this study is English as a second language classrooms, so no differences between genders are expected.

Three related anxieties have been used in the operationalization of foreign language anxiety (Aida, 1994). The first is communication apprehension, or the level of fear or anxiety associated with real or anticipated communication with other persons. Test anxiety is the fear of the consequences of one's inadequate performance in a test or evaluative situation. Test anxiety can develop when the student has had poor performances in the past. In a test situation, this anxiety would manifest as irrelevant thoughts that interfere with the test. Finally, fear of negative evaluation is the expectation that others will evaluate one negatively. High fear of

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negative evaluation in a classroom can take the form of withdrawing from group activities, minimal participation, or, in extreme cases, cutting class.

Hilleson (1996) compiled a list of the most important concepts used in second language anxiety research. The most relevant to second language learners in the present study are foreign language anxiety and foreign language classroom anxiety. Foreign language anxiety occurs when students face a task in a language that is not their own. Foreign language classroom anxiety is a specific form of foreign language anxiety, but related only to classroom tasks. In research, it is mostly applied to refer to speaking in a classroom.

According to Youngsang (2000), the anxiety component of the socioeducational model is weak because it places so much importance on social variables and a broad perspective of SLA at the cost of attention to the specific situations that cause anxiety. Even if the school is identified as a source of anxiety, the emphasis of the socioeducational model on the larger social milieu would make it difficult to identify the particular tasks that elicit the anxiety. Another weakness cited by Youngsang is that studies in the context of the socioeducational model use the French Class Anxiety scale, which consists of just five items that exclusively cover speaking. Since anxiety can also involve listening, reading, and writing, it is possible that the scale suffers from construct underrepresentation. Youngsang also notices that the relation of anxiety and SLA in research is ambiguous. This is in part due to the inconsistent results of studies, in which anxiety sometimes facilitates and sometimes debilitates SLA, sometimes is a cause and sometimes a result of SLA, and

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sometimes has a moderate effect and sometimes is the most important predictor of SLA. Youngsang concludes that more effort in the conceptualization and measurement of anxiety is necessary in order to get useful results from anxiety research. This effort needs to include the characteristics of the second language classroom; the expectations in the classroom; the activities conducted by teachers; the tasks that cause more anxiety in students; whether anxiety can be explained as cognition, emotion, or both; and if the cultural differences affect language anxiety differently.

Self-Confidence

Clement (1980) considers self-confidence as part of the integrative motivation factor. Self-confidence is a combination of high perceived proficiency and low levels of anxiety. Self-confidence develops from experience with the second language. Low self-confidence is related to both high second language anxiety and second language writing anxiety (Cheng, Horwitz, & Schallert, 1999).

Perceived proficiency is the result of the continual self-assessment with which students assess their own skills in a second language. This self-assessment helps to develop strategies to improve those skills. In a study with adult learners, MacIntyre, Noels, and Clement (1997) showed that the more anxious students tended to underestimate their performance in the second language. The authors found that self-perception of competence and actual competence are correlated with the amount of output produced in the second language and the quality of that output.

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Language Learning Strategies

Research in language learning strategies implies that successful language learners use different strategies than students whose achievement is low. The goal of research on this subject is to study the strategies that successful students use, identify the most effective ones, and help students to learn how to use these strategies (Bremner, 1999). The terms used to describe strategies include technique, behavior, operation, and action, and their purposes can be described as acquiring knowledge, regulating learning, making learning more effective, or enhancing learning (National Capital Language Resource Center, 2000). In the particular case of second language learners, the long-term goal is to attain learner autonomy. O'Malley & Chamot (1990) identified three types of strategies that help second language learning. Cognitive strategies use information in ways that enhance learning. Metacognitive strategies are higher order skills that include planning, monitoring, and evaluating activities conducive to second language learning. The third type of strategy is social/affective; these strategies include those that require interaction with another person, or control over one's affects.

Results of studies investigating the relationship between the use of these strategies and language achievement have been mixed. Vann and Abraham (1990) found that unsuccessful learners use the same strategies as successful ones. The difference was in the flexibility of their selection and how appropriate each strategy was for each particular situation. The causal relation between strategy use and language achievement is subject to debate. Although the correlation between the two

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suggests a causal link in a specific direction, there is evidence of a more complex relation. Strategy use is a cause but also a result of proficiency. According to McIntyre (1994), the finding that more proficient students make better use of strategies can be interpreted in two ways. It may mean that language strategies cause more proficiency and it may also mean that achieving a high level of proficiency allows students to make a better choice of strategies. For example, a cognitive strategy such as watching TV shows in English is not available to English language learners until they reach a minimum level of proficiency. In this case, the proficiency level determines the strategy use of the learner. Instead of causality with a single direction, this relation could be conceived as reciprocal, with strategies leading to higher proficiency, which in turn make more strategies available to the learner.

The instrument used to measure strategy use in the present study is the Strategy Inventory for Language Learning (SILL), modified for ESL/EFL students (Oxford, 1990). This instrument is widely used and considers six types of strategies (Chamot, 2004). Memory strategies allow for the storing and retrieval of information. Cognitive strategies refer to the manipulation of the target language by the learner. Compensation strategies enable students to use the target language for comprehension or production, despite limitations in knowledge. Metacognitive strategies allow the learners to control their own cognitions. Affective strategies allow students to control their own feelings and attitudes. Finally, social strategies

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allow students to use language as a form of social behavior and to communicate with other people (Cohen, 1995).

Oxford (1990) divided these strategies into two types. Direct strategies are those that directly involve the use of the second language. The strategies in this category are memory, cognitive, and compensation strategies. Indirect strategies are those that do not involve directly the target language, but are still necessary for learning the language. In this category we find metacognitive, affective, and social strategies. The cultural characteristics of a particular group can influence the strategy selection of members of that group. For example, a culture that places more importance on the good of the group, rather than individual achievements, may choose social strategies with more frequency (Sanchez, 2003).

In a study conducted with undergraduate participants, Hsiao & Oxford (2002) found evidence of the dichotomy between direct and indirect strategies and the six-factor classification by Oxford (1990). They also found the SILL more appropriate for participants in English as a second than for participants in English as a foreign language because the context in which the learning takes place affects the pattern of strategy use. For example, an item that refers to how likely it is that a participant asks the help of a native speaker is more appropriate in an English as a second language than in an English as a foreign language context.

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Language Aptitude

The ability to learn a language is another important element of the socioeducational model. Motivation alone cannot account for SLA, nor can it account for the different rates at which different people acquire a second language.

In the case of second language learning, there are two main ways of assessing language aptitude, depending on how the material is being learned. The first assesses material that has been implicitly learned. These tests may focus on the ability to learn an artificial language, providing practice on the vocabulary and syntax of a language created specifically for the test, followed by tasks that involve its use (Grigorenko, Sternberg, & Ehrman, 2000). Another way of assessing material implicitly learned is by focusing on the skills that contribute to SLA. These skills are usually obtained through factor analyses and may include phonetic coding ability, grammatical sensitivity, memory, and inductive language learning, among others. The second approach to second language aptitude uses material that has been learned explicitly. Tests using this approach measure crystallized ability, or the knowledge already acquired, and involve skills that require the use of the vocabulary and syntax from the second language. An example of this kind of test is the Concept Mastery Test (Terman, 1970) which measures crystallized ability and uses two types of items: synonyms and antonyms, and analogies. For the first type of item, the task of the participant is to decide whether two words are synonyms or antonyms. For the second, the participant chooses a word to complete an analogy.

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The test used by Gardner and associates is the Modern Language Aptitude Test (Carrol & Sapon, 1958) which, in spite of its age, is still the dominant test of second language aptitude. The original version of the Modern Language Aptitude Test (MLAT) intended for adults consists of five scales: number learning, phonemic transcription, spelling clues, words in sentences, and paired associates. The present study used the Spanish version for elementary school children, which consists of four scales: hidden words, matching words, finding rhymes, and number learning (Stansfield & Reed, 2005). In a study similar to the present study, Gardner, Tremblay, & Masgoret (1997) used only the last three scales, which comprise the short form of the adult version of the test.

Language Acquisition Context

In the socioeducational model, the social context influences second language learning on at least two levels, the cultural beliefs that determine attitudes and the attitudes toward the context in which the learning takes place. The influence of the context is important in shaping the attitudes of the learners towards the process of language acquisition.

In the present study, the second language context is of special importance. The only difference between second language and foreign language acquisition predicted by the socioeducational model is the relative importance of motivation and aptitude. Apart from this, the attitudinal and personality variables would interact in the same way to produce SLA. However, there is the exception noticed by Dornyei

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(1990) that foreign language learning could not logically involve attitudes toward the second language group, because the learners do not have a significant contact with the members of the second language community. In this case, the attitudes of students learning a second language would have a more important role in their process of SLA.

Some practical differences were found in a study comparing Taiwanese students studying English as foreign language and American students learning Spanish as second language (Benjamin & Yih-Lan, 2003). The differences were in the scores of the four factors identified in the instrument. The original instrument was developed to include five variables: task, ego, work avoidance, integrative, and instrumental orientations. After an exploratory factor analysis, four factors were a better fit, combining ego and work avoidance in one factor. The authors, however, do not regard this as a deficiency of the socioeducational model, but as a problem of the instrument used, the Motivation Orientation Scale. The translation of certain items caused problems because learning English as foreign or second language is not the same as learning another more local language. For example, the item "A person with good English ability is highly recognized in our society," and its translation, "A person with good Spanish ability is highly recognized in our society," have a different cultural context. In Taiwan, English is essential for business and school. In America, the Spanish language is one of many second languages, and not nearly as essential for Americans as English is for Taiwanese individuals.

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Another aspect of the context in which SLA occurs is the formality or informality of the learning situations (Youngsang, 2000). An informal setting is any situation where the individual might learn the second language. Examples include exposure to written material such as magazines and newspapers, radio and TV broadcasts, and the movies. In these examples, the individual is in contact with the language, but there is no instruction. As noted earlier, motivation can be more important than aptitude in informal settings, and aptitude can be more important in formal ones. Since this study was conducted in a school setting, aptitude is expected to contribute more to SLA than motivation.

Language Outcomes

The two types of outcomes that can be identified in the socioeducational model are linguistic and nonlinguistic (Gardner, 2001b). Linguistic outcomes include improved mastery of the second language. Nonlinguistic outcomes include better grades and changes to the attitudinal variables that form a part of the model, like interest in the language, desire to learn more, and desire to use it.

The Socioeducational Model Tested

Gardner explicitly states that SLA is facilitated by a number of factors. Therefore, attributing the causality of success in the second language to a single variable would be an oversimplification (Gardner, 1988). He also concedes that the causal links in the model can be interpreted both ways. For example, since causal

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links in a causal model are established using regression, one could establish causality from attitudinal and motivational variables to proficiency or from proficiency to attitudinal and motivational variables. Furthermore, prior achievement can be one of the causal variables of current achievement. However, he points out that the statistical methods available will not settle the matter of the direction of the causality in a definite manner (Gardner, Tremblay, and Masgoret, 1997).

The variables used in the present study were based on the same five factors obtained by Gardner, Tremblay, & Masgoret (1997). The first factor, self-confidence, includes measures of class anxiety, second language use anxiety, and self-confidence. Variables in the second factor, language learning strategies, include memory strategies, cognitive, compensation, metacognitive, and social strategies. In the third factor, motivation, the authors found motivational intensity, attitudes toward learning a second language, and desire to learn the second language. The fourth factor included all the measures of language aptitude. The last factor was named attitudes and included the evaluation of the teacher and the class, attitudes towards French Canadians, instrumental orientation, attitudes towards the target group, and integrative orientation. The authors also included several measures of language achievement in the last factor. Most of these measures are appropriate for college students: Theme Test, French Achievement Test, Thing Category Test, Cloze Test, and the grades of the participants in the French class they were taking at the time of data collection.

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The authors also used the Group Embedded Figures Test as an indicator of field independence; however, this measure did not load in any factor meaningfully and had a small regression weight. These factors appear as circles in Figure 1, each with its indicator variables, which appear as rectangles.

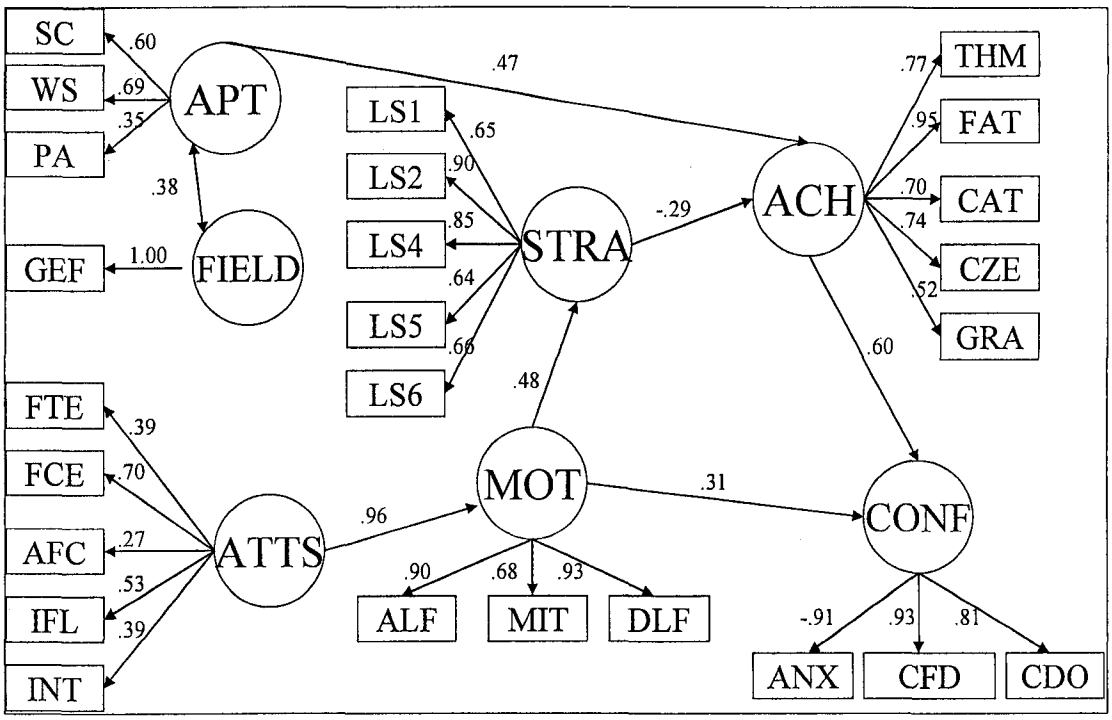

Figure 1: The socioeducational model (Gardner, Tremblay, & Masgoret, 1997, 354).

APT: Language Aptitude; SC: Spelling Clues; WS: Words in Sentences; PA: Paired Associates; FIELD: Field Independence; GEF: Group Embedded Figures; ATTS: Language Attitudes; FTE: French Teacher Evaluation; FCE: French Course Evaluation; AFC: Attitudes Towards French Canadians; IFL: Interest in Foreign Language; INT: Integrative Orientation; STRA: Language Strategies; LS1: Remembering More Effectively; LS2: Using Mental Processes; LS4: Organizing and Evaluating Learning; LS5: Managing Emotion; LS6: Learning with others; MOT: Motivation; ALF: Attitudes Toward Learning French; MIT: Motivational Intensity; DLF: Desire to Learn French; ACH: Language Achievement; THM: Theme Test; FAT: French Achievement Test; CAT: Thing Category Test; CZE: Cloze Test; GRA: Grades in French; CONF: Self-Confidence; ANX: Language Anxiety; CFD: Self-Confidence; CDO: Can Do Test (Self-Rated Proficiency).

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As seen in Figure 1, this underlying structure is consistent with the socioeducational model. The strongest predictor of language achievement was motivation (.48), followed closely by language aptitude (.47). The effect of attitudes is mediated by motivation and its indirect effect is the third strongest predictor of language achievement (.96 X .48 = .46). In this model, motivation also predicts the use of strategies to acquire a second language (.48). The effect of language learning strategies on language achievement was negative (-.29). The authors suggest that the reason for this negative estimate is that beginners need to use a wide variety of strategies, while more experienced learners have selected only the few that work for them. The result would be a decreased use of strategies with increased command of the language. Also according to this model, confidence is not a cause of language achievement, but language achievement is a predictor of confidence (.60). This means that high levels of second language achievement cause higher confidence, but high confidence does not cause second language achievement. Gardner, Tremblay and Masgoret (1997) admit that this was a respecification suggested by the modification indices of the software used to run the full structural model. The direction of this path seems to be opposite to the findings about self-confidence discussed earlier in this chapter. According to Clement (1986), confidence causes motivation, and motivation causes achievement. In the final model by Gardner et al., the impact of confidence is mediated by motivation, and the direction of the link makes it an outcome, not a cause, of language achievement. Gardner and his collaborators argue that this is theoretically reasonable because, according to the

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socioeducational model, motivation and language aptitude are responsible for second language acquisition.

In their study, the variable field independence was introduced for the first time in the socioeducational model. The only reason cited by the authors was the "relationship between field dependence/independence and achievement in the L2" (Gardner, Tremblay & Masgoret, 1997, p. 346). The instrument used to measure field independence is the Embedded Figure Test and it places individuals either at the dependent or the independent end of the scale. Field independent individuals have greater autonomy from external sources of information in situations involving ambiguity. Field dependent individuals tend to rely more on external referents. In the context of language learning, field independent individuals are considered to be more capable at tasks that are cognitively demanding. Field dependent individuals are considered to develop their social abilities to solve situations involving cognitive ambiguity. However, the contributions of this variable to understanding SLA show some problems (Johnson, Prior, & Artuso, 2000). First, it is not clear whether the Embedded Figures Tests measures a cognitive style or a cognitive ability. If the test measures field independence as ability, then higher scores indicate a higher level of ability. If it measures field independence as a cognitive style, then the scores indicate a propensity. The use of the highest score in the test as indication of field independence assumes that it is ability, when this is not entirely clear. Another criticism is the interpretation of the high correlations between field independence and cognitive ability could include that field independence is just an indicator of

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cognitive ability. Finally, the association of field independence and SLA, if it exists, does not include an explanation of how field independence facilitates the acquisition of a second language.

Gardner found that field independence had a moderate correlation with aptitude (.38) and he did not interpret this finding in the context of the socioeducational model. The role it plays in the model, if any, was not presented by the authors. To keep this study consistent with the model, and preserve its parsimony, variables that do not have a theoretical congruity with it, like field dependence, were not included.

The authors found that the model fits the data reasonably (Gardner, Tremblay, & Masgoret, 1997). However, the overall fit of the model is within rejection criteria (Byrne, 2001). The value of the chi-square was significant χ^2 (268, N=102) = 465.18 p=.000, but smaller than twice the degrees of freedom. The value of the adjusted goodness of fit index was .702, far from the .90 generally accepted as indication of good fit. The authors also report Delta (.853) and Rho (.832), which compare the specified model to the independence model. Both are close to the minimum acceptable value of .90. The authors also report that the factors of the model were obtained using a principal components factor analysis, not a confirmatory factor analysis. This means that the approach was exploratory, rather than confirmatory, and that the factors in the structural equation model were specified based on the loadings obtained in the factor analysis, not on the theoretical model being assessed. These irregularities in the assessment of the socioeducational

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model in the study by Gardner, Tremblay, and Masgoret (1997) represent an opportunity for an appropriate assessment of the model in elementary school students.

Elementary School Bilingual Students

The interest of the present study was how second language acquisition occurs in elementary school students who are native Spanish speakers. The process of acquiring a second language is not a simple one, and it typically requires between four and seven years to achieve grade-level standards in academic and literacy achievements in the second language (Collier, 1987; Cummins, 1991). In the case of Hispanic students, the process can be complicated by the fact that even when tested in their native language, Spanish-speaking children attain low levels of achievement (Gersten & Woodward, 1995). Hispanic students in the United States have lower levels of achievement in English and are more at risk for academic failure as a result (Gunn, Smolkowski, Biglan, & Black, 2002). At-risk Hispanic students who succeed in school usually have some form of family and community support, generally identified as resiliency. Resiliency theory identifies supportive relationships with caring adults; student characteristics such as self-esteem, motivation, and acceptance of responsibility; family factors such as parental support and involvement in school; community factors such as youth programs; and school factors such as academic success and pro-social skills training (Chavkin & Gonzalez, 2000).

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The reasons why the families of Hispanic students leave their countries are mostly economic. According to Ogbu (1992), the families of Hispanic students are voluntary minorities. Voluntary minorities are those groups that relocate willingly to the United States and that possess cultural characteristics different from those found in the United States. These differences do not represent an obstacle to the ultimate assimilation of these groups to the mainstream culture of the United States. These groups tend to experience poverty and the social and economic stress that come with it. By contrast, involuntary minorities are incorporated into mainstream society against their will and see their assimilation into the mainstream culture as against their interests.

The present study assessed the role of motivational and attitudinal variables in SLA. Children formulate many of their attitudes and values toward society in the early years. The development of these attitudes and values occurs primarily outside the school (National Council for the Social Studies, 1998). The students in the sample have enough contact with the second language and its community to have completely formed attitudes. A central concept in the present study is the distinction between integrative and instrumental motivation, which cannot just be assumed to exist across every culture (Clement, Dornyei, & Noels, 1994). The present study assessed the degree of the distinction between these two forms of motivation and their contribution to SLA in elementary school students.

Research on the development of the children of ethnic groups has several shortcomings, such as the lack of longitudinal studies, the exclusive focus on

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outcomes rather than on the processes that play a part in their development, and a minimization of the role of variables such as racism, prejudice, discrimination, and segregation (Thomas, 2001). The theory by Garcia Coll and her associates uses racism, social-position variables, segregation, promoting or inhibiting environment, child characteristics, family, and adaptive culture to explain the developmental competencies of minority children, including linguistic achievement (Garcia et al., 1996). Although her model is more a framework to interpret the competencies acquired by minority children, it considers variables traditionally left out of studies into the development of minority children.

The population of the study is Hispanic bilingual students, which is a growing segment of the enrollment in public schools, for whom acquiring English is a complex challenge. The socioeducational model is a representation of the elements that intervene in second language acquisition and their relations. The present study addressed the need for research assessing the socioeducational model.

The purposes of the present study and the nature of the research questions limited the research design alternatives to a few specific techniques and instruments that have been used by prior studies using the socioeducational model. Examples of those techniques include correlational research design and the use of structural equation modeling. Chapter 3 presents in detail the methods and instruments used to assess the research questions of the present study.

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CHAPTER 3

METHODS

Studies of the socioeducational model use correlational designs mainly due to the model's purpose of explaining the role of a set of variables in predicting SLA and the type of variables used in these studies (Masgoret & Gardner, 2003). The socioeducational model is a theoretical model that uses specific variables to interpret findings in SLA. Correlational research is an effective way to assess this type of theoretical model. This type of research allows the use of variables that cannot be manipulated either because it is not possible or because it would be unethical to do so.

Other types of research could result in a better understanding of different aspects of the problem of how individuals acquire a second language. An experimental study could assess causal relations among variables. However, most of the variables in this study do not lend themselves to the manipulation required by an experiment, due to ethical considerations. An experiment that causes high anxiety, low self-confidence, or unfavorable attitudes toward English speakers would not be allowed in any school or be sanctioned by any organization. In addition, some variables cannot be manipulated, such as language aptitude or language achievement. Variables that could be manipulated would require such long treatments that they

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would compromise the internal and external validity of the experiment. For example, attitudes and motivation are based on cognitions, affects, and experiences that require a very long time to have a noticeable change. Descriptive studies could help us better understand the problem from the point of view of the participants (Maxwell, 1996). A phenomenological study could bring insight into the subjective experience of a bilingual student in a contemporary classroom and how he or she perceives the variables in this study. For example, such a study could answer the question, "How does a student feel when he or she experiences low self-confidence in using a second language?" A topical history of lives could give much-needed insight into the long-term effects of educational practices, and their effects on other aspects of the lives of students, besides language achievement. Although these methods could provide valuable information, they are not adequate for the purposes of this study. The stated research questions call for operational definitions and measurement of the variables, the use of specific statistical techniques, keeping subjective interpretation to a minimum, and constraining the use of the data collected to finding answers to the research questions. Furthermore, this study did not pursue in-depth information about the lives of the participants.

In a critical view of the methods used by researchers using the socioeducational model, Au (1988) showed several methodological problems such as inconsistencies in the operationalization of variables, questionable validity of some scale items, the possibility of an inverse causal relation between attitudes and language achievement, measuring the criterion variable before the predictors, and

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unjustified generalizations. This study used a method similar to the one used in the articles mentioned by Au, but steps were taken to prevent these potential problems.

Purpose

This study had three purposes. The first was to analyze the variables included in the socioeducational model to assess whether there is a factor structure consistent with it. The second was to investigate their relations and quantify their contributions to SLA. Finally, this study evaluated the adequacy of fit of the variables in the causal model and interpreted these relations according to the socioeducational model. Additionally, the study tested specific predictions of the model.

Research Questions

This study assessed the adequacy of the socioeducational model of SLA in elementary school students. The first three research questions assessed the model in this population. Questions 4 to 7 refer to predictions about the relations between specific constructs of the model. The research questions were as follows:

1. What is the adequacy of each of the measurement models used in the socioeducational model, when the learners are elementary students?
2. How well does the proposed structural model explain SLA?
3. What is the specific nature of the relationship among the latent constructs used in the structural model?

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4. Are motivational variables better predictors of SLA than aptitudinal variables?
5. Is integrative orientation a better predictor of SLA than instrumental orientation?
6. Are there gender differences in the acquisition of SLA?
7. How does age affect attitudinal variables in elementary school students?

Research Design

Research design concerns decisions about the data collection, analysis, and interpretation and reporting the results (Creswell, 2002). The method, instruments, and data analysis used in this study are similar to other studies using the socio-educational model. The main design differences with those studies are due to the characteristics of the sample.

Population and Sample

The population is English language learners enrolled in a bilingual program who speak Spanish as native language. The number of bilingual students in the United States represents a growing challenge for the educational system. Hispanic children in U.S. schools are the fastest growing ethnic group. By 2050, the number of Hispanic students will increase to more than 18 million, or 26.6% of the student population, making them the second largest ethnic group in the country. In Illinois, the number of English language learners (ELLs) has increased from 107,084 in the

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school year 1994-1995 to 192,764 in the school year 2004-2005, an increase of 80% (National Clearinghouse for English Language Acquisition & Language Instruction Educational Programs, 2006a). In some states these changes are magnified; for example, in South Carolina the increase has been 714.2% (from 1,891 to 15,396), in North Carolina 371.7% (from 14,901 to 70,288), in Tennessee 369.9% (from 4,119 to 19,355), and in Indiana 407.8% (from 6,293 to 31,956). Most ELLs in the country speak Spanish as the native language, and the programs that serve them also constitute a considerable fraction of the enrollment in elementary and middle schools. The study was conducted in the city of Elgin, Illinois. In the year 2000, Elgin had 97,117 residents, of whom 34.3% of the residents are Hispanic (United States Census Bureau, n.d.).

The sample was a convenience sample taken from the bilingual classrooms in three elementary schools in school district U-46, in Elgin, Illinois. In 2005, the total enrollment in the School District U-46, the district serving the city of Elgin, was 38,429, of which 15.2 % receive transitional bilingual services (Illinois District Report Card, 2005). The participants of this study were Spanish native speakers, enrolled in the bilingual program of the school district, and in fourth through sixth grades. There were no efforts to stratify the sample, meaning that the participants in this study did not necessarily represent the proportions of gender, age, academic achievement, second language achievement, or country of origin found in the population at large.

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Following the criteria of five students per variable minimally needed for a multivariate analysis (Tabachnick & Fidell, 1989), and because the study measured 22 variables, the minimum sample size was targeted at 110 participants.

The final sample consisted of 120 students in fourth through sixth grades. Of the participants, 65 (54%) were females and 55 (46%) were males with a mean age of 10.3 years of age ($SD = 0.962$). The number of participants in each grade level is presented in Table 1, and their ages in Table 2. Of the 120 participants, five did not take the How We Learn English instrument.

Table 1

Grade Levels of Participants

Grade level	Number of Participants	Percent
4	48	40.0 %
5	52	43.3 %
6	20	16.7 %
TOTAL	120	100 %

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Table 2

Age of Participants

Age	Number of Participants	Percent
9	28	23.3 %
10	44	36.7 %
11	31	25.8 %
12	15	12.5 %
13	1	0.8 %
Missing	1	0.8 %
TOTAL	120	100 %

Data Collection

This study assumes that the variables of the socioeducational model are causes and SLA is the effect; therefore, the order in which the data were collected reflects this chronological sequence. Data collection was conducted by the researcher and classroom teachers in the students' classrooms.

After receiving approval by the Institutional Review Board of Northern Illinois University to conduct research involving human participants, the researcher sought permission from the school district and school principals and invited ten teachers to participate in the study. Seven of them agreed: three fourth-grade

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teachers; two fifth-grade teachers; one sixth-grade teacher; and one split fifth/sixth-grade teacher.

Data collection began in January 2006 and continued until April 2006. Teachers were trained before data collection began in an after-school session that included mainly three primary topics: how to use the instrument containing the scales used in this study, the How We Learn English instrument; how to administer the Modern Language Aptitude Test; and the rights of the participants. Teachers kept a document with the most important parts of this training. The document can be found in Appendix A.

Only students with assent and consent forms were accepted as participants. (See Appendices B, C, D, and E.) No rewards were offered to students for their participation, but a pizza party was offered to teachers for a high return of assent and consent forms in their classes. All the participating classes received this incentive.

During data collection, the researcher was in contact via e-mail with the participating teachers. No incidents of any kind were reported. All the teachers preferred to administer the Spanish version of the How We Learn English Instrument in the suggested four sessions, and the Modern Language Aptitude Test in the two sessions recommended in the administration manual. The estimated duration of about one hour for each instrument was accurate, according to all the teachers in the study.

The last data received were the scores of the ACCESS for ELLs, in July 2006. The scores of the How We Learn English instrument were entered directly

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into an Excel spreadsheet. The Modern Language Aptitude Test was scored according to its instructions. Items were given a value of 1 if it was correct, or 0 if incorrect, and typed into the data base. The value of the scales measured by the How We Learn English instrument was computed as the average of the items in the scale. For the MLAT, the scale value is the sum of the items in the variable. The data base was inspected to search for unacceptable values, errors in typing, or other problems. Missing data were given the value 999. No variables were recoded because the items were worded in unidirectional terms.

Instruments

The variables included in this study (Appendix H) have operational definitions and evidence of validity and reliability that have been accepted and used in several studies (Casbarro, 2004; Gardner, Tremblay, & Masgoret, 1997; Sparks & Ganschow, 1995; Sparks, Ganschow, Javorsky, 2000; Yashima, 2002). The instruments were modified to accommodate the language and make sure that the items were comprehended by the participants.

The Attitude and Motivation Test Battery (AMTB) was developed to measure a set of variables believed to have influence on SLA in college students (Gardner, 1985a). The AMTB has been altered several times to make it appropriate to the populations of specific studies. The instrument used by Gardner, Tremblay and Masgoret (1997) also included measures of self-confidence and measures of interest. The scales adapted from the 1997 instrument for this study are the following.

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The attitudes towards group scale was based on the attitudes towards French Canadians scale (9 items, $\alpha = 0.78$). The items were originally designed to elicit the attitudes of English-speaking Canadian university-level students towards the French Canadian population. For this study, these items were adapted to a population of Spanish-speaking students living in the United States.

The scales attitudes toward learning French (9 items, $\alpha = 0.86$), desire to learn French (9 items, $\alpha = 0.78$), French class anxiety (8 items, $\alpha = 0.88$), French use anxiety (8 items, $\alpha = 0.88$), instrumental orientation (4 items, $\alpha=0.63$), and integrative orientation (4 items, $\alpha = 0.73$), were adapted to refer to the English language. Interest in foreign languages (6 items, $\alpha = 0.75$) and motivational intensity (7 items, $\alpha = 0.76$) were translated with minimal adaptations.

To measure self-confidence, Gardner and his associates added four items to the self-confidence scale developed by Clement and Kruidenier (1985), and added two more scales. The self-confidence ability controlled scale (6 items, $\alpha = 0.92$) was necessary in order to differentiate self-confidence from achievement, which the original items did not do. The self-confidence given ability scale (4 items, $\alpha = 0.92$) was developed to compare the level of self-confidence among students of the same level of English proficiency. The intention was to measure self-confidence while controlling for ability level. The scales used in this study include the self-confidence given ability, self-confidence ability controlled, and the items added to the self-confidence scale by Clement and Kruidenier (1985), for a total of 15 items measuring self-confidence.

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One critique of Gardner's Attitude and Motivation Test Battery (AMTB) is that the scales that compose the instrument respond more to a logical structure than to an empirical one (Au, 1988). The reason is that Gardner did not use a factor analysis to assess the construct validity of his instrument and make sure that it corresponded to the theoretical specification of his model. Another critique is that the scores of each scale were added to arrive at a single score labeled integrative motive. This assumes a simple additive relation between the scales that could be questioned. One last critique is that all the scales in the instrument have seldom been used together in reserch. Au (1988) argues that Gardner and his associates seem to pick the scales that are more important for each particular sample. The factor structure from the 1997 study by Gardner, Tremblay and Masgoret gave the instrument empirical corroboration. To address the second critique in the present study, the scales in the AMTB were considered as discrete measures; no single composite score was used in the present study. To address the last critique, this study used all the scales in the instrument.

Gardner (1985b) reported the convergent construct validity of all the scales obtained by correlating the instrument with the MLAT as ranging between .20 and .44 for students in grades 7 to 11. Of the ten correlations, all but one of the correlations were significant. Discriminant validity was assessed by correlating the instrument with the academic average. As expected in an instrument with discriminant construct validity, the correlations were low, ranging between -.03 and

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.32. Content validity was achieved during the design of the instrument by expert judgment of individual items.

Strategy Inventory for Language Learning

The Strategy Inventory for Language Learning was developed by Oxford (1990) from an exhaustive list of learning strategies. The final version of the SILL includes memory strategies (9 items), cognitive strategies (13 items), compensation strategies (6 items), metacognitive strategies (9 items), affective strategies (5 items), and social strategies (6 items). Green and Oxford (1995) report internal consistency of SILL, using Cronbach's alpha, as between 0.93 and 0.98 (1995, p. 264).

ACCESS for ELLs

The instrument used to measure second language proficiency was the Assessing Comprehension and Communication in English State-to-State for English Language Learners, known as ACCESS for ELLs (WIDA Consortium, n.d.). This test assesses social and instructional English in the four language domains. The test is used by the school district to comply with the mandate to assess annually student growth in English proficiency. The test also measures the achievement in the language used in language arts, mathematics, science, and social studies. The administration of the speaking test takes about 15 minutes and it is administered individually. The other sections can be administered to groups. The duration of these sections vary slightly: the listening section takes 25 minutes, the reading section 35,

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and the writing section 60. The reports include composite scores for oral language, literacy, comprehension, and an overall score. The overall score is comprised of 35% writing, 35% reading, 15% listening, and 15% speaking, reflecting the contribution of each language domain to academic success. The present study used the scores for the four language domains and the overall score as indicators of second language achievement (WIDA Consortium, 2006).

One limitation of this test concerns its ecological validity. As with other standardized tests, it uses a discrete approach; that is, it considers language as a set of distinct behaviors. Since these tests are typically administered at school and refer to academic situations, they do not accurately measure the language proficiency achieved in other settings. These settings might include the language used by students with their friends or in the community (Jitendra & Rohena-Diaz, 1996; Solano-Flores, 2003).

Modern Language Aptitude Test

The measure of language aptitude for the present study was the Modern Language Aptitude Test-Elementary: Spanish Version (Stansfield & Reed, 2005), based on the Modern Language Aptitude Test (Carroll & Sapon, 1958), the instrument originally used by Gardner and his associates to measure language aptitude.

The Modern Language Aptitude Test-Elementary: Spanish Version (MLAT-ES) consists of four sections and can be completed in around sixty minutes. The first

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section, hidden words, measures vocabulary knowledge in the native language and the ability for sound-symbol association. The second section, matching words, measures sensitivity to grammatical structure, without using grammatical terminology. The section finding rhymes, not included in the original version of the MLAT, measures the ability to hear speech sounds by selecting words that rhyme. In the last section, number learning, examinees learn numbers in an artificial language and after some practice they are asked to recognize and write down a series of numbers in the artificial language.

Additional Scales

In addition, two Likert scales were designed specifically for the present study: evaluation of the teacher and evaluation of the class. These two variables were measured using 25 bipolar scales by Gardner, Tremblay, and Masgoret (1997). To avoid the possible confusing effects of changing response options, five Likert items were written for each variable.

The scales used to measure each variable were presented to the participants in the form of a questionnaire. The administration of the ACCESS for ELLs was organized by the district and it included specific training for all the teachers in the school district.

The questionnaire had two types of items. Direct questions were used to gather the demographic information, such as gender and age. These items were written specifically for this study. The second type of item consisted of a statement

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with Likert response options. All the variables, with the exception of language proficiency and language aptitude, were measured with Likert scales. A Likert item consists of ordered-category responses options in which several options are placed between two opposite poles. The maximum number of options a person can distinguish in this type of scale is seven, but fewer options provide the same information without the added complexity for the respondent (McDonald, 1999). The scales in this study consisted of items with five response options. Students in these grades prefer Likert scales like the ones used in this study to other response options in instruments (Van Laerhoven, Van Der Zaag-Loonen, & Derkx, 2004).

The measure of English proficiency, the ACCESS for ELLs, uses a combination of multiple choice and completion items. Reading and listening use multiple-choice items, while speaking and writing use a completion format.

Translation and Adaptation

The scales used in the present study have been used primarily with native English-speaking students learning French or with French native speakers learning English. This study used these scales with native Spanish speakers, which makes translation necessary. Those items that were written using a level of language appropriate for the students in the sample were translated directly into Spanish. In the case of items using difficult vocabulary or a complex wording, and those that made reference to a different context, an adaptation was made before they were translated.

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One necessary adaptation was to change all the items that were originally worded negatively into positive items. The reason is that elementary school students have difficulty using negatively worded items accurately to express their opinions. In particular, it is difficult for them to express agreement by disagreeing with a negative statement (Benson & Hocevar, 1985). Items worded negatively were identified and then worded positively. For example, the negatively worded item "Knowing English isn't really an important goal in my life" was reworded positively as "Knowing English is an important goal in my life." Some items required this change to a positive wording prior to adaptation. For example, the item "The more I learn about French-Canadians, the less I like them" was positively reworded as "The more I learn about French-Canadians, the more I like them," and then was adapted as, "The more I learn about Americans, the more I like them."

The items were direct measures; that is, there were no attempts to hide the intention of the instrument. Some efforts of using indirect measures were used in the early stages of the development of the socioeducational model, but their benefits were questionable (Au, 1988).

Translation can affect the validity of an instrument (Kester & Pena, 2002). The sources of this potential invalidity are cultural or language differences, technical issues and methods, and interpretation of results (Hambleton & Kanjee, 1993). Back translation is an efficient method to prevent these problems. With this method, a translator translates the instrument from the source language to the target language. Then a second translator translates from the target language back to the source

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language. The degree of similarity between the two instruments is evidence of the equivalence of both versions of the instrument. Hambleton and Kanjee warn against translations that are designed to look like the original in the source language, at the risk of sounding unnatural in the target language. A better way of maintaining validity is to use natural-sounding expressions in the target language, even if the two translations are not exactly alike. One more consideration is that the translation should ensure that items remain meaningful to respondents and that the translation of items takes into account factors such as cultural context, the language setting, and the relationship between first and second language groups. Finally, the adaptation of the scales should strive to maintain the correspondence between the content of the items and the operationalization of the variables (Gardner, 1988; 2001a).

There are several options when using an item with a population that speaks a different language (Auchter & Stansfield, 1997). If the item is free of language, dialect, or cultural differences, it can be translated directly into the target language. If the item contains language, dialect, or cultural references that could produce a different response in the target language, the item requires significant changes. These changes are known as adaptations. There is also a third option if the item is not amenable to translation and, therefore, a different item should be used. According to Auchter and Stansfield, it is expected that a careful translation and adaptation process will preserve the validity and reliability of an instrument across languages. To assure that the translation is not too literal, therefore conveying a

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sense of unnatural language that can compromise the quality of the item, the translation should be done by a native speaker.

In the present study, items were translated from English into Spanish by the author, who is a native Spanish speaker. A native English speaker with a master's degree in Spanish translated from Spanish into English, and a third person, also a native English speaker, compared the two English versions, the original and the result of the back translation. The first items included in the instrument in Spanish were those in which the original item and the back translation were identical and those with only small differences in word order. Items in which the two versions of the items contained different words were analyzed to identify possible changes in meaning. After small modifications, the person comparing the two versions decided that the back translations and the original items would elicit the same responses. The resulting instrument was read by three third grade students to assure that they could comprehend all the items. The students reported understanding all the items in the instrument.

Instruments used to measure variables in participants from another culture or speakers of a different language should also consider construct validity by making sure that the construct measured really exists in the culture in which the instrument is used (Brems, 1998). Using the second language to measure a construct can be problematic. The most evident cause is a lack of understanding of the language used in the instrument. A more difficult situation is when a construct manifests itself in a different manner in the second culture. In the present study, the translation of the

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instrument allowed the researcher to present it in Spanish, the native language of the participants.

Reliability

Reliability is the degree of consistency between two measures of the same object, or the certainty that repeated measures will result in similar results (Mehrens & Lehmann, 1993). A change in the score of a reliable test is really a reflection of a change in the variable it measures and not an effect of poor test construction or design. In the social sciences, no measure is one hundred percent reliable because the existence of the variables measured can only be inferred through their measures. One way to enhance the reliability of an item is to ensure that the definitions of the variables are being used consistently. As mentioned earlier, studies using the socioeducational model, including the present study, have used definitions and instruments consistently. In addition, Cronbach's Alpha was used to assess the internal consistency of the scales used in this study. Cronbach's Alpha reflects the cohesiveness of items on an instrument, with values close to 1.00 indicating good cohesion.

Validity

The validity of an instrument is the quality that allows researchers to make precise inferences about the variable the instrument is measuring (Mehrens & Lehman, 1993). There are several methods of validating an instrument, including

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predictive, concurrent, content, and construct validity. Construct validity is the extent to which individuals possess a quality or construct presumed to be measured by the instrument. All the instruments achieved construct validity during their design. The confirmatory factor analyses (CFAs) discussed in Chapter 4 were performed to assess whether the factors group the indicators in the same way they were designed. A factor containing all the indicators used to measure it provides evidence of its construct validity.

Procedure

All instruments used in this study were administered by the classroom teachers. All data collection occurred in classrooms within the first two hours of the school day. The scales in the Attitude and Motivation Test Battery and the Strategies Inventory for Language Learning were included in one instrument named for the purpose of this study How We Learn English (see Appendix G for the English version and Appendix H for the Spanish version). The directions and items of the instrument are in Spanish, the native language of the participants. The instrument was administered in four sessions, each approximately 20 minutes. In the first session, teachers explained the directions to students, who then answered two practice items and 30 of the items on the instrument. In each of the remaining sessions, students responded to 35 items. Teachers read each item and gave enough time for students to choose between the five response options on the Likert scales. After each session the teachers collected and kept the instruments in a secure place.

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The MLAT consists of four sections and is completed in around sixty minutes. The materials are all included in a test booklet and the instructions are presented through a CD that is then played during the administration of the test. Following the oral directions, the recording includes work time in the form of silences that last for the duration of each section. The test can be administered in one session, but it can be divided into two sessions if necessary.

The ACCESS for ELLs measures the language proficiency of students learning English as a second language. The participating teachers received special training along with all the bilingual teachers in the school district. The organization and administration of the ACCESS for ELLs were the responsibility of the school district.

Data Analysis

Data for this study were used to construct an Excel database. The results of the Likert scale items were coded into values from 1 to 5. In the case of the How We Learn English Instrument, a score for each scale consisted of the average of the items in that scale. In the case of the MLAT, the score for each scale was the sum of the items in each scale. Age and gender were coded and entered into the database, along with the raw scores of the ACCESS for ELLs. The data analysis was conducted using SPSS 14.0 and AMOS 6.0.

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Confirmatory Factor Analysis

To avoid the limitations of models with one or two measures for each latent construct, this study took a multiple-indicator approach. At least three indicators were used for each latent construct. These observed variables, or indicators, are presumed to measure a latent variable that corresponds to a hypothetical construct not directly observable (Kline, 1998). For example, in the study by Gardner, Tremblay and Masgoret (1997), attitudes towards learning French, motivational intensity, and desire to learn French were considered indicators of the latent variable motivation. To answer the first research question, a confirmatory factor analysis (CFA) was performed. CFA seeks to determine if the number of factors and the variables loading in them correspond to a model predefined by the researcher. The indicator variables were selected on the basis of prior research and used to confirm that they load on the expected factor. The number of latent variables and the indicators that load in each of them were decided beforehand based on theoretical evidence. The CFA allows the validation of the constructs used in the socioeducational model.

Structural Equation Modeling

To address research questions 2 and 3, structural equation modeling (SEM) was conducted. This study used the confirmatory modality of SEM to assess whether the data correspond to the model proposed by Gardner, Tremblay and Masgoret (1997).

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SEM is a family of multivariate statistical techniques that incorporates correlation, regression, path analysis, and factor analysis (Asher, 1983; Blalock, 1985; Garson n.d.). SEM is used to interpret the relationships among several variables (Schumacker & Lomax, 1996). To investigate if there is a causal relation between two variables, it is necessary to assume that correlation is an indicator of causation. There are three conditions that must be met in order to infer a causal relationship between two variables (Asher, 1983). The first is that there must be a concomitant correlation between the variables. This means that a change in the value of one variable is accompanied by a change in the value of the other. Second, there must be time asymmetry between the variables. This means that the variables must comply with the assumption that causes happen before the effects. This condition applies only to the theoretical model being tested and can be assumed or imposed by the researcher. Finally, the third condition requires that there are no other variables producing the observed effect. In other words, the effect must remain when confounding variables are removed from the model. This causal analysis can be extended to a larger number of variables, using regression analysis to assess the links between each pair of variables. If a link is omitted, that means that the correlation approaches zero and that the predicted values are different from the partial correlations in the regression. If the correlation is different from zero, or if the predicted values are close to the partial correlation, a link can be established.

Structural equation modeling tells whether a certain pair of variables meets the minimum criteria to accept a causal relation between them. The standardized

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estimates, expressed as coefficients, can be used as an indication of the magnitude of the causal relation between variables (Asher, 1983; Blalock, 1985).

Regression Analysis

Like most phenomena in education, second language acquisition is a complex one, with a variety of causes and sources of variation on dependent variables. Regression analysis is one way of studying these sources of variation. Since the general intention of a regression analysis is to know the changes in the values of the dependent variable based on changes in the independent variables, the latter are usually referred to as predictors.

The selection procedure used in this study was the backward selection, which begins with all the variables in the equation and then removes the variables with the least significant coefficients. This method is best to identify the variables that explain most of the variance in the dependent variable.

Two regression analyses were conducted. To answer question four, a set of motivational variables including desire to learn English, instrumental orientation, integrative orientation, and motivational intensity, and the six scales of the Strategy Inventory for Language Learning were used to predict SLA using multiple regression. A backward selection criterion was used. To answer question five, a regression analysis was used, with integrative and instrumental orientation as predictors of SLA.

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Analysis of Variance

Analysis of variance (ANOVA) is a technique used to assess the effects of each of the independent variables on the dependent variable (Cardinal & Aitken, 2006). In this analysis, the independent variable is used to form the groups whose means are compared. In this type of analysis, the null hypothesis is that there are no differences in the groups being compared. In the present study, two ANOVA analyses were performed. In the first, the sample was divided into groups by gender, and English achievement scores were used as dependent variable. Language-learning strategies were also used as dependent variables in an additional ANOVA to explore the relations between gender and the use of language learning strategies.

The null hypotheses related to this question were the following.

Ho = There are no significant differences between male and female students in language achievement.

Ho = There are no significant differences between male and female students in the use of language learning strategies.

Analysis of Covariance

Analysis of covariance (ANCOVA) is an analytic procedure to examine mean differences while controlling for the effects of an extraneous variable, called a covariate (Hinkle, Wiersma, & Jurs, 1998, Cardinal & Aitken, 2006). With ANCOVA, it is possible to remove irrelevant or error variance from the dependent

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variable that is not related to the independent variable. In other words, this analysis removes the effects of the covariate from the dependent variable.

The covariate is assumed to be linearly related to the dependent variable of the ANCOVA and it must be unaffected by other independent variables. In this type of analysis, the null hypothesis is that there are no differences among the groups being compared. To answer question seven, students were divided into groups by years of age and English class anxiety; English use anxiety, instrumental orientation, integrative orientation, interest in foreign languages, motivational intensity, self-confidence, desire to learn English, integrative orientation, and instrumental motivation were used as independent variables. In the model, higher values on all these variables predict higher scores in English achievement. Therefore, to control for the effects of English achievement in the analysis of the relation between age and the attitudinal variables selected in this analysis, the composite score of English achievement was used as a covariate.

The null hypothesis that addresses question seven is the following.

Ho = There are no differences due to age among attitudinal variables affecting SLA.

Limitations of the Data Analysis Method

A number of assumptions must be made in order to carry out causal modeling. First, there is a potentially infinite number of confounding variables that could affect the results of the analysis. The analysis would remove only the effects

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of those confounding variables measured. If there are other confounding variables that affect the achievement of students, but that are not included in the theoretical model and therefore are not measured, the analysis did not account for their effects. The degree of certitude that we can achieve corresponds to the soundness of the theoretical model being tested.

Structural equation modeling is the most appropriate method to assess a theoretical model like the socioeducational model. The present study incorporates recent developments in the techniques and criteria used to assess the fit of these models. The selection of the method and the statistical techniques used in the present study also considered their potential limitations. Although some limitations are intrinsic to the techniques used, the decisions made in the design of this study were made to avoid the design problems of previous studies.

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CHAPTER 4

RESULTS

This chapter presents the results of the analyses performed to address the research questions presented in Chapter 1. Questions 1, 2, and 3 assess the socioeducational model. Questions 4, 5, 6, and 7 assess specific predictions of the model and relations between variables that could affect the interpretation of the model.

Descriptive Statistics

Table 3 presents the descriptive statistics for attitudinal and motivational variables. The lowest values correspond to the two measures of anxiety, followed by attitudes toward the group. The rest of the variables had means close to or slightly above 4. There are no variables with excessive kurtosis (kurtosis>3). Of the ten attitudinal and motivational variables, eight were negatively skewed. To ensure normality in the analysis, four variables with a skewness coefficient of less than -1.00 were transformed for subsequent analyses by squaring their scores. The four variables with negative skewness were desire to learn English, instrumental orientation, integrative orientation, and interest in foreign languages. The results of this quadratic transformation show a more normal distribution, as shown in Table 4.

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The five missing cases correspond to students who took the MLAT and ACCESS for ELLs but were not in school during the administration of the How We Learn English instrument.

Table 3

Descriptive Statistics for Attitudinal and Motivational Variables

	N	M	SD	Skewness	Kurtosis	Min	Max
Attitudes toward group	115	3.29	0.76	-0.54	0.22	1.0	5.0
Attitudes toward learning English	115	4.14	0.62	-0.75	-0.01	2.4	5.0
Desire to learn English	115	4.04	0.74	-1.14	1.42	1.4	5.0
English class anxiety	115	2.80	0.92	0.01	-0.56	1.0	5.0
English use anxiety	115	2.48	0.86	0.28	-0.56	1.0	5.0
Instrumental orientation	115	3.93	0.92	-1.32	2.14	1.0	5.0
Integrative orientation	115	4.08	0.74	-1.23	2.53	1.0	5.0
Interest in foreign language	115	4.08	0.69	-1.20	2.70	1.3	5.0
Motivational Intensity	115	3.91	0.66	-0.53	0.28	1.9	5.0
Self Confidence	115	3.90	0.69	-0.94	1.69	1.3	5.0

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Table 4

Descriptive Statistics of Transformed Variables

	N	M	SD	Skewness	Kurtosis	Min	Max
Desire to Learn English	115	16.87	5.41	-.58	-.20	1.96	25
Instrumental Orientation	115	16.27	6.27	-.46	-.10	1.00	25
Integrative orientation	115	17.18	5.49	-.44	.10	1.00	25
Interest in Foreign language	115	17.14	5.17	-.42	.08	1.78	25

Table 5 presents the six strategies measured by the Strategy Inventory for Language Learning. Students reported a very uniform use of language-learning strategies. Compensation, with a mean of 3.32, was the lowest and metacognitive strategies was the highest, with a mean of 3.93. The skewness and kurtosis were within acceptable limits.

The four scales comprising the MLAT are designed to discriminate students with different levels of language aptitude. Table 6 presents the descriptive statistics of the scales in the MLAT. The Hidden Words scale has 30 items and a mean of 15.09. The scale Matching Words also has 30 items and had a mean of 13.86. Finding Rhymes is the longest scale with 38 items and a mean of 21.09. The last scale was Number Learning with 25 items and a mean of 15.64. The skewness and kurtosis of all the scales were within acceptable limits.

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Table 5

Descriptive Statistics of the Strategy Inventory for Language Learning (SILL)

	N	M	SD	Skewness	Kurtosis	Min	Max
Memory	115	3.67	0.82	-0.67	0.87	1.0	5.0
Cognitive	115	3.81	0.69	-0.59	0.81	1.3	5.0
Compensation	115	3.32	0.77	-0.12	-0.07	1.3	5.0
Metacognitive	115	3.93	0.72	-0.66	0.60	1.8	5.0
Affective	115	3.52	0.94	-0.22	-0.72	1.0	5.0
Social	115	3.62	0.84	-0.26	-0.56	1.7	5.0

Table 6

Descriptive Statistics for Language Aptitude

	N	Mean	Std Dev	Skewness	Kurtosis	Min	Max
Hidden Words	117	15.09	8.17	.33	-1.11	0	30
Matching Words	117	13.86	6.35	.13	-.84	0	29
Finding Rhymes	115	21.09	9.19	-.15	-.79	0	37
Number Learning	116	15.64	7.92	-.32	-1.32	0	25
Overall Score	117	65.69	21.83	-.36	-.21	0	116

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Table 7 presents the descriptive statistics for second language achievement. The measure for second language achievement was the ACCESS for ELLs. The answer sheets of the test were scored by the WIDA Consortium, and the summary sheets were returned to the schools in July 2006. All the descriptive statistics were within acceptable limits.

Table 7

Descriptive Statistics for Second Language Achievement

	N	M	SD	Skewness	Kurtosis	Min	Max
Listening	118	358.89	28.58	.47	.39	297	439
Speaking	117	324.84	68.89	-.95	.51	121	427
Reading	118	337.35	22.51	.61	1.12	290	415
Writing	118	330.77	32.14	-.21	.66	227	406
Overall Score	118	336.53	27.61	-.15	.22	257	410

The last two scales were the evaluation of the teacher and of the class. Descriptive statistics of these scales are presented in Table 8. Because the educational context tends to improve the teacher performance and the students' perception of their classes, the distributions were not expected to be normal. The mean of both variables reflect a very favorable evaluation from the participants.

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Table 8

Descriptive Statistics Evaluation of Class and Teacher

	N	M	SD	Skewness	Kurtosis	Min	Max
Teacher Evaluation	115	4.38	.62	-1.35	3.24	1.80	5
Class Evaluation	115	4.16	.71	-1.13	1.86	1.50	5

Reliability

An analysis of reliability was conducted using Cronbach's Alpha. Cases with missing values on one or more items were excluded from the analysis. Table 9 presents the number of cases, the Alpha coefficient, items deleted and the number of items that remained in the final scales.

Three items were removed due to poor psychometric properties. In the scale English use anxiety, item 4: "When called upon to use my English, I feel very much at ease" was removed. In the scale interest in foreign languages, item 9: "I prefer to see a movie in Spanish than one in a different language" was also removed. Finally, in the scale self-confidence, item 11: "Despite the fact that I may not speak English like an American, I feel sure using my English" was removed.

After these modifications, all scales showed acceptable reliability, with two scales showing alpha coefficients above .70, seven above .80 and one above .90.

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Table 9

Reliability of Scales Included in the Attitude and Motivation Test Battery

Variable	N	Alpha	Items Deleted	Items in Scale
Attitudes Toward Group	109	.81	0	10
Attitudes Toward Learning English	110	.80	0	10
Desire to Learn English	111	.87	0	10
English Class Anxiety	106	.84	0	10
English Use Anxiety	109	.81	1	9
Instrumental Orientation	112	.83	0	4
Integrative Orientation	115	.75	0	4
Interest in Foreign Languages	112	.84	1	9
Motivational Intensity	107	.76	0	9
Self-Confidence	110	.90	1	14

As shown in Table 10, the scales of the SILL showed acceptable reliability. In the scale metacognitive strategies, item number 2: "I notice my English mistakes and use that information to improve my English" was dropped to improve the alpha coefficient. The scale compensation strategies had the lowest coefficient (alpha=.65). No items could be excluded to improve the value of alpha. This value

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is acceptable considering the size of the sample and that the number of items used in the scale was only 4. Of the remaining scales, two had coefficients above .70, and three above .80.

Table 10

Reliability of the Strategies Inventory for Language Learning (SILL)

	N	Alpha	Items Deleted	Items in Scale
Memory	107	.86	0	9
Cognitive	99	.85	0	13
Compensation	111	.65	0	6
Metacognitive	109	.80	1	8
Affective	113	.76	0	5
Social	113	.74	0	6

Table 11 presents the two evaluative scales designed specifically for this study. The two scales had acceptable alpha coefficients. No items were removed from these scales.

Table 11

Reliability of Evaluative Scales

Variable	N	Alpha	Items Deleted	Items in Scale
Teacher Evaluation	112	.87	0	5
Class Evaluation	115	.79	0	5

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The MLAT has been normed with Spanish-speaking children learning English. The reliability of the test and each of the scales of the test as reported in the administration manual (Stansfield & Reed, 2005, pp. 9-13) appear in Table 12.

Table 12

Reliability of Scales in the Modern Language Aptitude Test (Alpha Coefficients)

	TOTAL	Hidden Words	Matching Words	Finding Rhymes	Number Learning
4th	.97	.92	.92	.95	.95
5th	.97	.91	.93	.94	.95
6th	.96	.91	.93	.94	.93

Validity of Measurement Models

A set of confirmatory factor analyses (CFAs) was performed using AMOS 6.0 to answer research question 1. What is the adequacy of each of the measurement models used in the socioeducational model, when the learners are elementary students? The CFA were performed on each measurement model to account for the relationship between the measured indicators and the latent factors. This is also a measure of how well these indicators serve as a measure of the latent variables. The measurement models were adequate in all but one of them. As specified, the confidence factor presented problems when tested in elementary students. All other factors had an adequate fit.

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Except for the factor confidence, which showed multicollinearity and problems with the number of indicators, the data complied with the assumptions of SEM (Kline, 1998). The measurement models that describe the relationship between the observed variables and the latent variables of the socioeducational model were drawn up in accordance with the results by Gardner, Tremblay, and Masgoret (1997). The missing data for five students were replaced by the mean values of the variables included in the How We Learn English instrument. This method for dealing with incomplete data is known as mean imputation. It has limited consequences; specifically, it decreases the variance of the variables, but it preserves the sample size and the statistical power of the analysis (Byrne, 2001). The students did take the Modern Language Aptitude Test and the ACCESS for ELLs and the sample size for this analysis was 120.

Several indices were used to assess the fit of the models. The first was the chi-square (χ^2) test, which assesses the overall fit of the model; specifically, it tests the hypothesis that an unconstrained model fits the covariance matrix as well as the specified model. In other words, a good-fitting model shows no significant differences between the unconstrained model and the model specified by the researcher. The value of the χ^2 should not be significant if the model fits the data. One potential problem with this index is that the larger the sample size, the more likely it is that the model will be rejected. This increases the potential for the occurrence of a Type II error. To compensate, other indices were used in conjunction with the χ^2 to assess the fit of the model (Arbuckle, 2005; Byrne, 2001).

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The Root Mean Square Error of Approximation (RMSEA) measures the amount of discrepancy between the model and the data. This indicator of fit takes into consideration the complexity of the model, measured by the number of parameters being estimated. Values of less than .05 are ideal and between 0.05 and .10 are considered acceptable. If the RMSEA is greater than .1, the model does not fit the data well and should not be used.

The goodness of fit index (GFI) measures the amount of variance in the sample that is explained by the model. The indicator used in the present study is the adjusted goodness of fit index (AGFI), which adjusts the GFI according to the degrees of freedom in the model. An AGFI of more than .9 indicates that the data fit the model well.

The comparative fit index (CFI) offers a comparison of the specified model and the most restricted model, which contains estimation of the variances of the observed variables only. A value above 0.9 indicates that 90% of the covariance of the data can be reproduced in the model, and the model is therefore acceptable.

The parsimony goodness of fit index (PGFI) is another evaluation of the hypothesized model, but this one rewards simpler models. This index helps to prevent excessive overfitting intended only to make the model statistically significant, disregarding theoretical considerations, or an excessive number of estimated parameters, that will not be replicated in other samples.

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Second Language Achievement

In this measurement model, the four subtests of the ACCESS for ELLs test for English Language Learners were used as indicators of the latent factor second language achievement. Figure 2 presents the model assessed. The four observed variables correspond to the four subtests: listening, speaking, writing, and reading. The model also has five unobserved variables, the four error terms associated with each indicator, labeled e11 to e14, and the latent factor second language achievement.

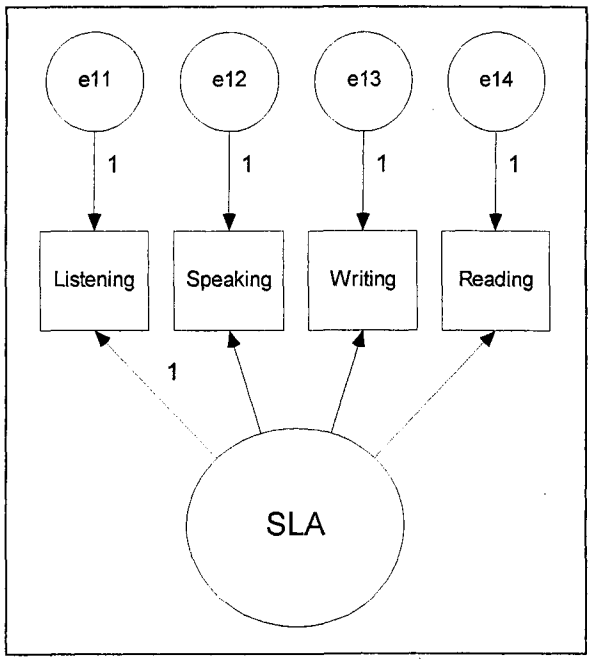

Figure 2. Model for second language achievement.

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Figure 3 presents the model with the standardized estimates for the model. The values on the sides of the arrows connecting SLA and its indicators are the standardized regression weights, the numbers above each indicator are the squared multiple correlations, or the amount of variance in the indicator explained by the latent factor. No respecifications were necessary to achieve a good fit of this model.

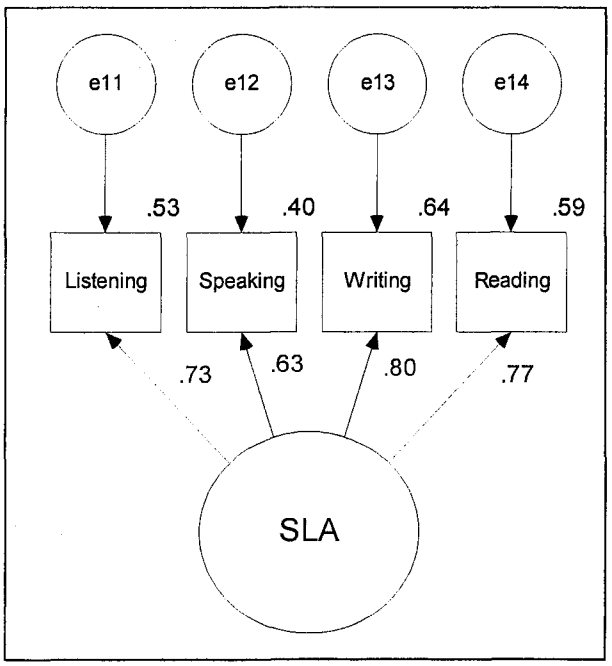

Figure 3. Model for second language achievement with standardized estimates.

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The model had a χ^2 (2, N=120) of 3.72, with probability level of .156. The number of parameters was 8, with 2 degrees of freedom. The RMSEA (.09), AGFI (.92), CFI (.99) and PAGFI (.20) indicate a good model fit.

The inspection of the parameter estimates presented in Table 13 revealed that all the regression weights of this model were significant at level $p < .001$. As shown in Figure 3, all the standardized estimates in the factor are above .60. The strongest loading variable is writing, followed by reading. The weakest loading belongs to the speaking subtest (.63). This specific subtest was administered individually by a group of teachers and administrators from the district. This subtest also had the smallest amount of variance explained in this model (.40). Differences in scoring between test administrators could account for the moderate amounts of explained variance and loading of speaking in SLA. This model confirmed the hypothesized structure of this factor.

Table 13

Regression Weights for Second Language Achievement

	Estimate	Standard Error	Critical Ratio	*P*
Listening	1.000	*	*	*
Speaking	2.104	.34	6.19	<.001
Writing	1.245	.17	7.47	<.001
Reading	.839	.12	7.30	<.001

* Regression weight fixed at 1.00. Not estimated.

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Confidence

For this model, the three observed variables were English class anxiety, English use anxiety, and self-confidence. The latent variables were anxiety and the three error terms associated with the indicators. Figure 4 presents the initial model assessed.

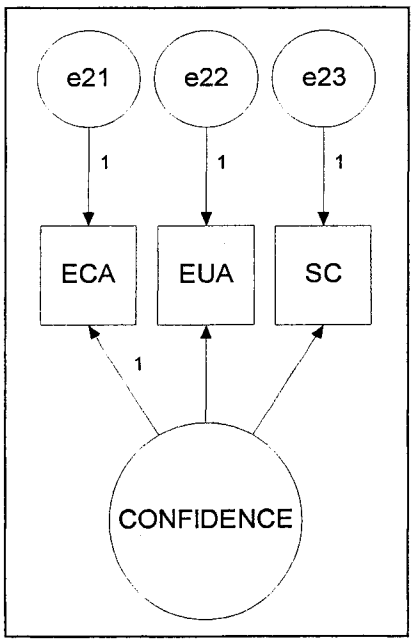

Figure 4. Model for confidence.

ECA:English Class Anxiety; EUA: English Use Anxiety; SC: Self-confidence.

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As initially specified, the model had six parameters to be estimated and six sample moments, resulting in 0 degrees of freedom. To make possible the testing of the fit of this model, a constraint had to be imposed on one parameter. The procedure suggested by Byrne (2001) is to analyze the critical ratios for differences between parameters, which test the hypothesis that two parameters are equal in the population. The critical ratios indicated that the estimation of the parameters of the error terms of English class anxiety and self-confidence would not be different in the population. The variances of these two parameters were constrained to share the same value (indicated as V_1 in the respecified model). The degree of freedom gained made it possible to assess the overall fit of the model. Figure 5 presents the respecified model assessed and Figure 6 presents the standardized estimates.

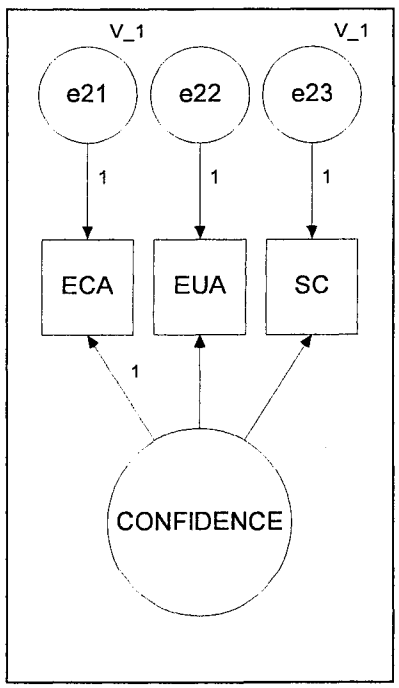

Figure 5. Respecified model for confidence.
ECA:English Class Anxiety; EUA: English Use Anxiety; SC: Self-confidence.

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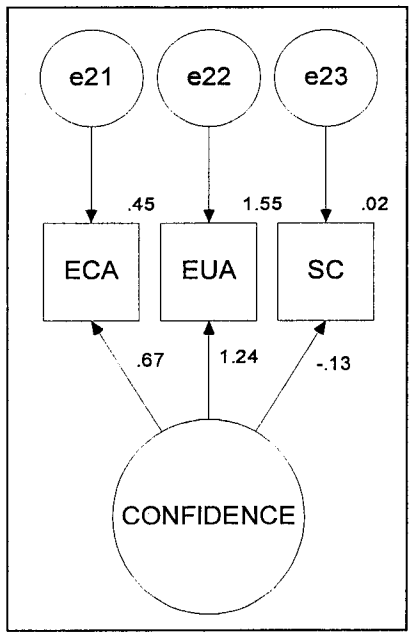

Figure 6. Model for confidence with standardized estimates.

ECA:English Class Anxiety; EUA: English Use Anxiety; SC: Self-confidence.

The inspection of the modification indices revealed that no respecifications would improve the fit of the model. The value of the χ^2 (1, N=120) =.004, p=.952, indicating very good fit. The other fit indices RMSEA (.00), AGFI (1.00), CFI (1.00), and PAGFI (.17), also indicate a very good fit.

In this model the regression weights in Table 14 show some atypical results. The regression weight for English use anxiety is larger than one (1.71), as is the standardized estimate (1.24). The two anxiety variables are highly correlated r(118) = .83, p<.001.

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Table 14

Regression Weights for Anxiety

	Estimate	Standard Error	Critical Ratio	*P*
English Class Anxiety	1.00	*	*	*
English Class Use	1.71	.39	4.36	<.001
Self-Confidence	-.15	.07	-1.99	.046

* Regression weight fixed at 1.00. Not estimated.

As seen in Figure 6, the standardized coefficient and the squared multiple correlation of English use anxiety, which are larger than 1, are unacceptable and were the first indications of error in the conceptualization of this factor. The standardized estimate for self-confidence was negative and weak (-.13). Furthermore, the squared multiple correlation of self-confidence is only .02. This means that the amount of variance of the indicator self-confidence is not explained by the factor confidence, and the amount of error variance (98%) is excessive. This was another indication of the inadequacy of this model.

This factor has three indicators, which is the minimum to comply with the assumption of multiple indicators in a CFA. One possible solution to eliminate the larger than 1 estimates would be to remove either English use anxiety or English class anxiety. But this would leave only two indicators in the factor, making the factor vulnerable to underidentification if the two indicators are not correlated. Due to this lack of adequacy, this factor was dropped from the final structural model analysis.

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Attitudes

This factor included the same variables as the same factor in the study by Gardner, Tremblay, and Masgoret (1997). The variables included as indicators were teacher evaluation, class evaluation, attitudes toward the group, interest in foreign languages, and integrative orientation. The model also included the latent variable attitudes. Figure 7 presents the initial model assessed.

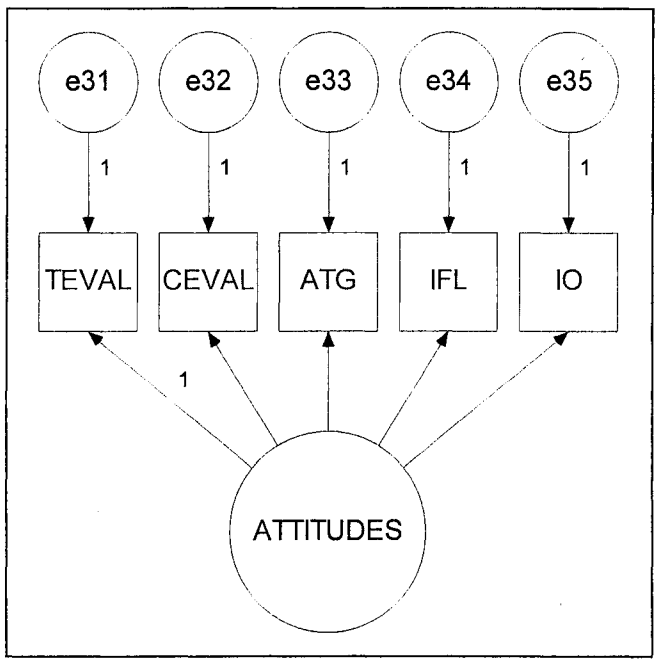

Figure 7. Model for attitudes.

TEVAL: Teacher evaluation; CEVAL: Class evaluation; ATG: Attitudes toward group; IFL: Interest in foreign language; IO: Integrative orientation.

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The fit of the initial model was not acceptable, as shown by the value of the χ^2 (5, N=120) =20.664 p=.001. The remaining goodness of fit indices, RMSEA (.16), Adjusted GFI (.80), CFI (.81), and the parsimony AGFI (.31), also showed a poor fit.

The modification indices indicated that the only respecification necessary to improve the model fit was the covariance between the error terms of teacher evaluation and class evaluation. These two variables imply an evaluation of the learning environment of the students in the sample, and a high correlation was expected. The modification was therefore accepted. Figure 8 shows the model with the covariance shown as a curved line with two arrows between teacher evaluation (TEVAL) and class evaluation (CEVAL). When this correlation was allowed, the model achieved an acceptable fit. The final model is shown in Figure 9.

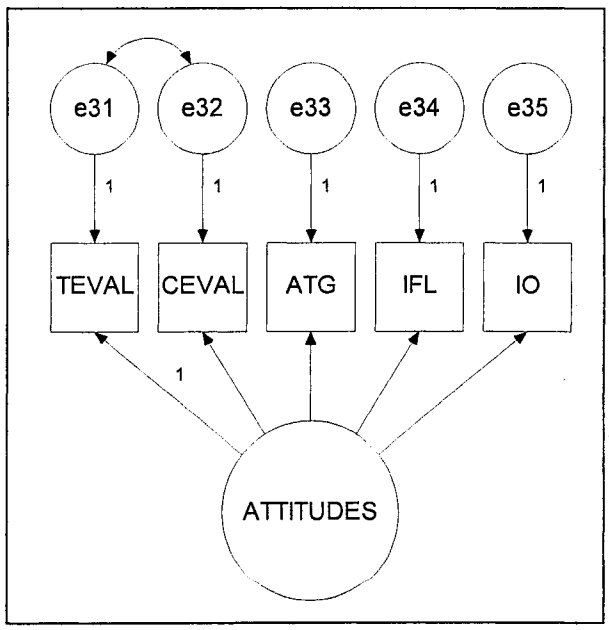

Figure 8. Respecified model for attitudes.

TEVAL: Teacher Evaluation; CEVAL: Class Evaluation; ATG: Attitudes Toward Group; IFL: Interest in Foreign Language; IO: Integrative orientation.

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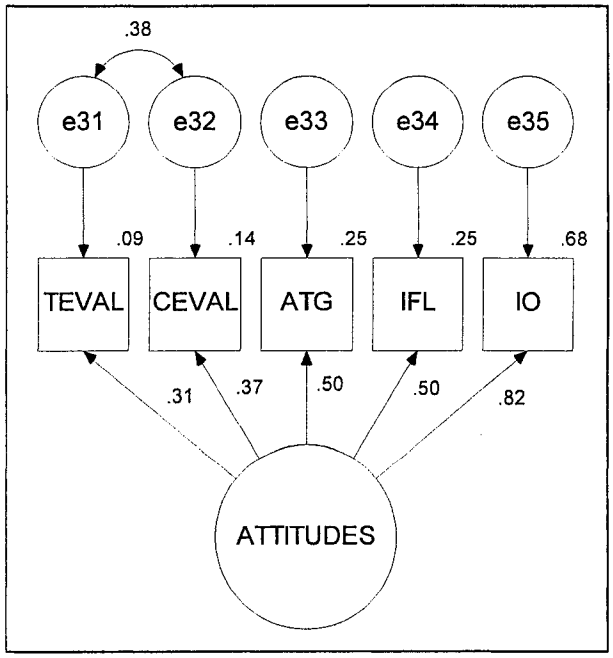

Figure 9: Model for attitudes with standardized estimates.

TEVAL: Teacher Evaluation; CEVAL: Class Evaluation; ATG: Attitudes Toward Group; IFL: Interest in Foreign Language; IO: Integrative orientation.

The χ^2 (4, N=120) was 5.698, p=.223. The goodness of fit indices RMSEA (.06), Adjusted GFI (.93), CFI (.98), and the parsimony AGFI (.26) showed a very good fit for this model.

As shown in Table 15, all the regression weights as well as the correlation in the model were significant. The standardized estimates in Figure 9 show that the dominant variable was integrative orientation (.82), followed by attitudes toward group and interest in foreign languages. The evaluation of the teacher and the class had the lowest loadings, and the amount of the explained variance (.09 and .14 respectively), as indicated by the squared multiple correlation coefficients. This

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suggests that teacher evaluation and class evaluation have potentially a moderate relation to the other indicators in this factor. Because the factor had an acceptable overall fit as specified by the original study by Gardner, Tremblay and Masgoret (1997), the factor was left without change for testing the full structural model.

Table 15

Regression Weights for Attitudes

	Estimate	Standard Error	Critical Ratio	*p*
Teacher Evaluation	1.00	*	*	*
Class Evaluation	1.41	.48	2.96	.003
Attitudes Towards Group	2.02	.78	2.60	.009
Interest in Foreign Languages	13.72	5.29	2.59	.010
Integrative Orientation	23.98	9.27	2.59	.010

* Regression weight fixed at 1.00. Not estimated.

Language Learning Strategies

This model used the six scales of the Strategy Inventory for Language Learning as observed variables and language learning strategies as latent factor. The indicators were memory strategies, cognitive strategies, compensation strategies, metacognitive strategies, affective strategies, and social strategies. Figure 10 presents the initial model assessed.

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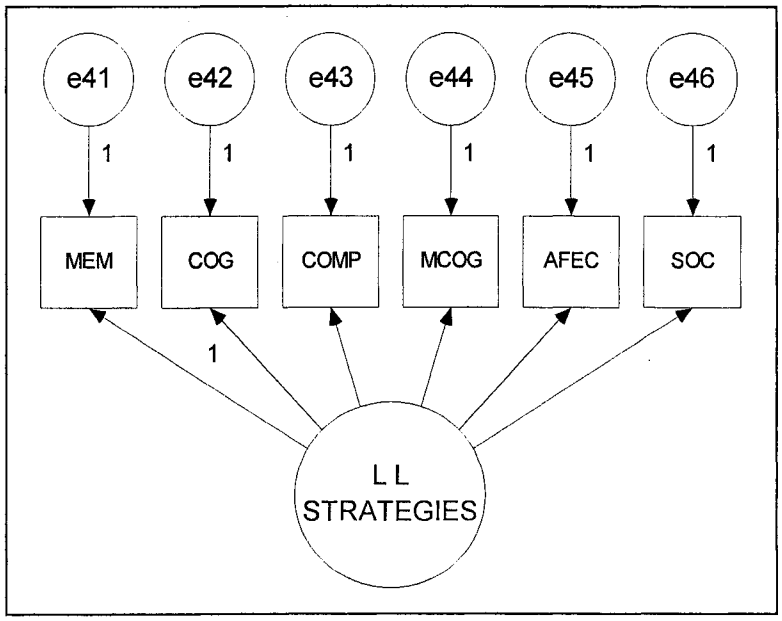

Figure 10: Model for language learning strategies.

MEM: Memory; COG: Cognitive; COMP: Compensation; MCOG: Metacognitive; AFEC: Affective; SOC: Social.

As initially specified, the model had a poor fit, as indicated by the value of the χ^2 (9, N=120) = 95.23 with a probability of p<.001. The rest of the fit indices RMSEA (.28), AGFI (.46), CFI (.82) and PAGFI (.33) also indicated an unacceptable fit. The modification indices indicated that allowing the error terms of memory and cognitive skills, of cognitive and affective skills, and of affective and social skills to covariate as free parameters the discrepancy would fall significantly. These modifications implied that correlations existed in the use of language learning strategies by the participants.

The first correlation to improve the fit of the factor is between the error terms of two direct strategies (Oxford, 1990), memory and cognitive strategies, and the

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third is between the error terms of two indirect strategies, affective and social. Variables within the same group have the same purpose in the development of communicative competence for the learner, so a high correlation is expected. The second correlation is between the error term of one direct strategy, cognitive, and one indirect, affective. This means that the strategies used to create opportunities to practice, analyze, and reason with the second language are related to the strategies used to control the learner's anxiety, control emotions, and give oneself encouragement. This correlation is not in disagreement with the theory behind the taxonomy by Oxford that stresses that the learners use the strategies in combination. These respecifications are shown in Figure 11.

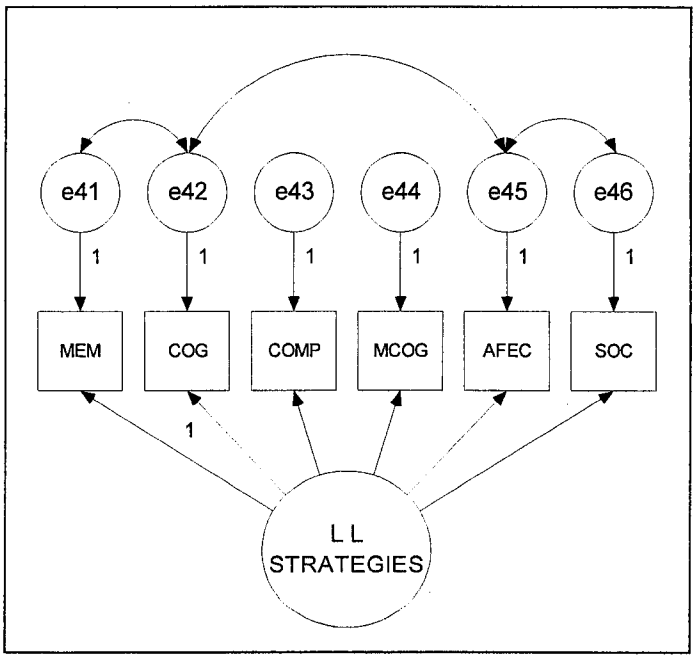

Figure 11: Respecified model for language learning strategies.

MEM: Memory; COG: Cognitive; COMP: Compensation; MCOG: Metacognitive; AFEC: Affective; SOC: Social.

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The final model shown in Figure 12 achieved a better fit, with a χ^2 (6, N=120) = 10.58, and a p=.10. The rest of the fit indices RMSEA (.08), AGFI (.91), CFI (.99) and PAGFI (.28) also indicated an acceptable fit.

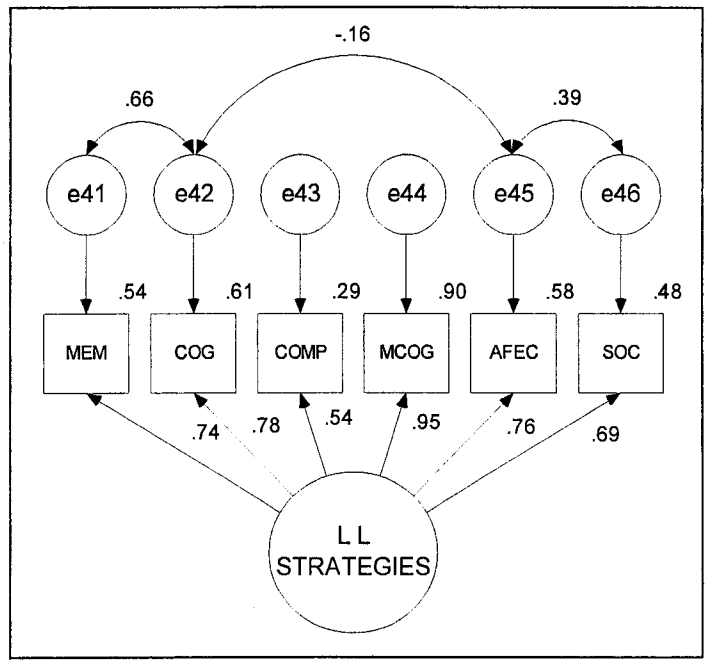

Figure 12. Model for language learning strategies with standardized estimates.

MEM: Memory; COG: Cognitive; COMP: Compensation; MCOG: Metacognitive; AFEC: Affective; SOC: Social.

All the regression weights were significant at level of p<.001, as shown by Table 16. The standardized estimates in Figure 12 show that the highest loading variable in this factor was metacognitive strategies (.95), followed by cognitive, affective, and memory strategies, all with coefficients above .70. The three indirect strategies had slightly stronger loadings than the direct strategies. The correlation

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between cognitive and affective strategies had a small negative coefficient (-.16). This means that the more a participant used cognitive strategies, the less he or she used affective strategies. If a student seeks to control his or her anxiety and emotions when learning a second language, his control over opportunities to practice the second language, analyze and reason with it, and to create structures for input and output will diminish to some extent, and vice versa. This was considered to be compatible with the theory of language-learning strategies (Chamot, 2004; Oxford, 1990), and the model was accepted with its modifications. This analysis confirms the hypothesized structure of the factor.

Table 16

Regression Weights for Language Learning Strategies

	Estimate	Standard Error	Critical Ratio	*P*
Memory	1.00	*	*	*
Cognitive	.89	.06	14.67	<.001
Compensation	.68	.12	5.74	<.001
Metacognitive	1.12	.12	9.59	<.001
Affective	1.16	.14	8.27	<.001
Social	.95	.13	7.48	<.001

* Regression weight fixed at 1.00. Not estimated.

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Language Aptitude

The instrument used to collect the data for this factor was the Modern Language Aptitude Test, version for elementary students. The four observed variables were the four subtests of the MLAT: hidden words, matching words, finding rhymes, and number learning. The model also included the four error terms associated with each observed variable and the latent factor language aptitude. Figure 13 presents the initial model for this factor.

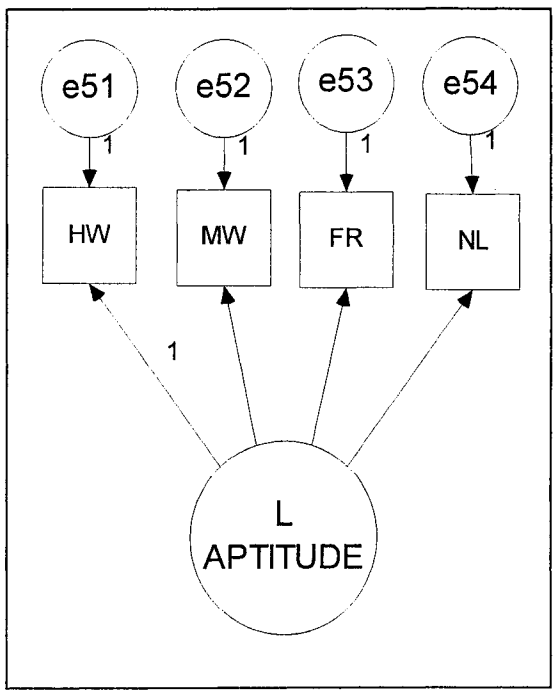

Figure 13. Model for language aptitude.

HW: Hidden Words; MW: Matching Words; FR: Finding Rhymes; NL: Number Learning.

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The model had a χ^2 (2, N=120) =9.31 and p=0.01. This overall fit was unacceptable. The other indices of goodness of fit RMSEA (.18), AGFI (.83), CFI (.87), and parsimony AGFI (.19) indicate the model is inadequate.

The only respecification suggested by the modification indices was a covariation between the error terms of the scales hidden words and matching words. Figure 14 presents the model with this specification.

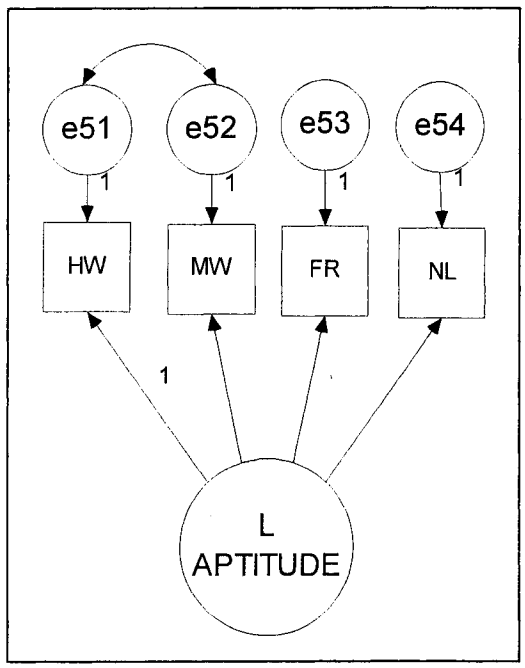

Figure 14. Respecified model for language aptitude.

HW: Hidden Words; MW: Matching Words; FR: Finding Rhymes; NL: Number Learning.

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The final model had a χ^2 (1, 120) = 0.10. p= .92. The goodness of fit indices RMSEA (.00), AGFI (1.0), CFI (1.0), and parsimony AGFI (.10) indicate an extremely good fit.

As shown in Figure 15, the dominant indicator in this factor was the hidden words scale with a standardized coefficient of .88. The rest of the indicators had loadings of above .45. As shown in Table 17, all the regression weights in the model were significant.

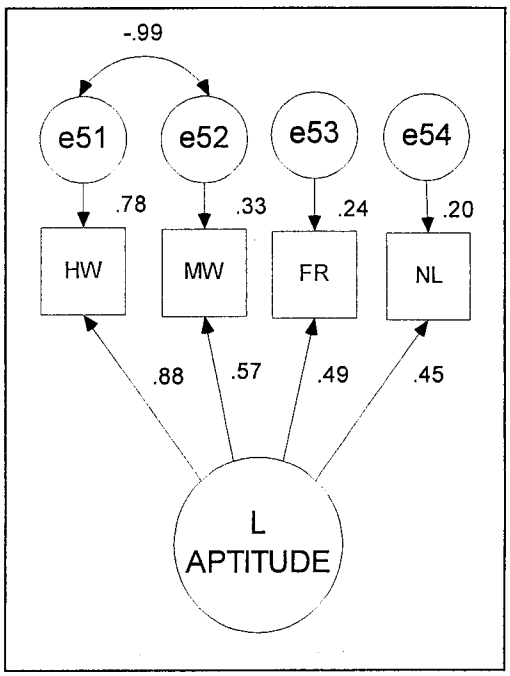

Figure 15. Model for language aptitude with standardized estimates.

HW: Hidden Words; MW: Matching Words; FR: Finding Rhymes; NL: Number Learning.

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Table 17

Regression Weights for Language Aptitude

	Estimate	Standard Error	Critical Ratio	*p*
Hidden Words	1.00	*	*	*
Matching Words	.51	.15	3.38	<.001
Finding Rhymes	.63	.23	2.72	.007
Number Learning	.50	.19	2.66	.008

* Regression weight fixed at 1.00. Not estimated.

The indicator number learning had a moderate amount of explained variance (.20). This scale was theoretically necessary, as it explains the inductive language-learning ability component of language aptitude. This analysis confirms the hypothesized structure of the factor.

Motivation

The measurement model for this factor was taken from the article by Gardner, Tremblay, and Masgoret (1997). In the present study, this factor included attitudes towards learning English, motivational intensity, desire to learn English and instrumental orientation and the latent variable motivation. Figure 16 presents the initial model.

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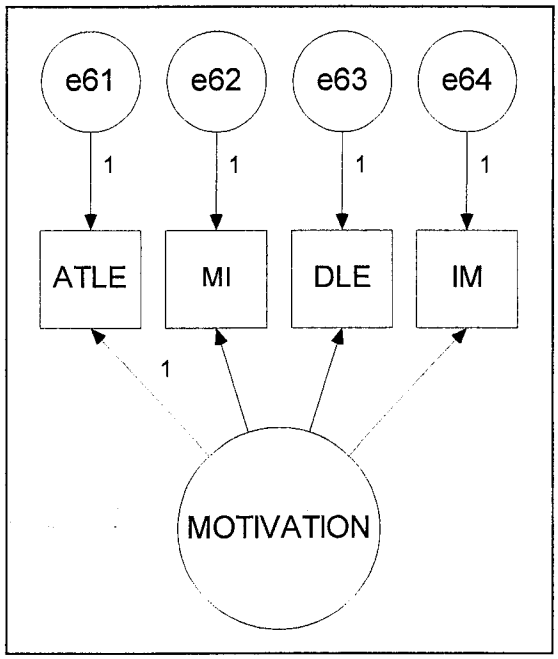

Figure 16. Model for motivation.

ATLE: attitudes toward learning English; MI: motivational intensity; DLE: desire to learn English; IM: instrumental orientation.

The initial model showed a poor fit, with a χ^2 (2, N=120) = 6.62 and a p=.037. The other goodness of fit indices RMSEA (.14), AGFI (.88), CFI (.97) and parsimony AGFI (.88) also indicate an inadequate fit. According to the modification indices, the overall fit would be improved by establishing a correlation between the error terms of attitudes toward learning English and desire to learn English. Additionally, an examination of the critical ratios revealed that constraining the value of the variance of the error terms of attitudes toward learning English and desire to learn English to share one value would improve the overall fit. Figure 17 presents the model with the two respecifications. In the figure, V_1 is used to

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represent the value of the variances of the error terms of attitudes toward learning English and desire to learn English.

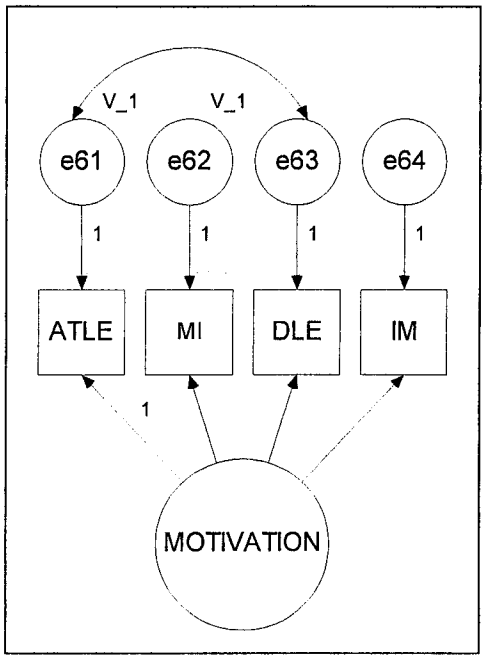

Figure 17. Respecified model for motivation.

ATLE: attitudes toward learning English; MI: motivational intensity; DLE: desire to learn English; IM: instrumental orientation.

The final model had a χ^2 (2, N=120) = 4.282 p= .118. The goodness of fit indices RMSEA (.10), AGFI (.91), CFI (.98) and parsimony AGFI (.20) indicate a good fit of the model with the data. In the final model presented in Figure 18, the variable with the highest loading was desire to learn English, followed by motivational intensity. The variable with the smallest squared multiple correlation was attitude toward learning English (.34), followed closely by motivational

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intensity (.35). Although comparatively low in the factor, these amounts of explained variance are acceptable.

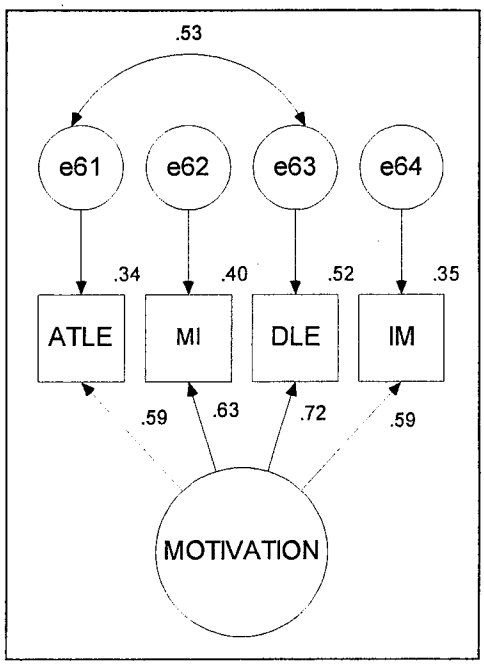

Figure 18. Model for motivation with standardized estimates.

ATLE: attitudes toward learning English; MI: motivational intensity; DLE: desire to learn English; IM: instrumental orientation

As shown in Table 18, all the regression weights were significant at $p<.001$. The correlation between attitudes toward learning English and desire to learn English was also significant. This analysis confirms the hypothesized structure of the factor.

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Table 18

Regression Weights for Motivation

	Estimate	Standard Error	Critical Ratio	*p*
Attitudes Towards Learning English	1.00	*	*	*
Motivational Intensity	1.11	.24	4.71	<.001
Desire to Learn English	1.46	.21	6.88	<.001
Instrumental Orientation	10.15	2.53	4.01	<.001

* Regression weight fixed at 1.00. Not estimated.

Full Structural Model

The full structural model was tested in AMOS 6.0 to assess research questions 2 and 3:

How well does the proposed structural model explain SLA?

What is the specific nature of the relationship among the latent constructs used in the structural model?

The CFAs confirmed that, with the exception of anxiety, the assessment models were well designed measures of the factors used in the present study and that they were valid and reliable enough to assess the adequacy of the full structural model in this section.

The full structural model assessed in the present study included the measurement models as specified by the CFAs. The relations between the latent factors were drawn up according to the model presented in Chapter 3. The structural

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model as specified did not provide a good fit to the data collected from the sample in this study. The initial full structural model is presented in Figure 19.

Figure 20 presents the standardized estimates of the full structural model. The model did not achieve a good fit. The χ^2 (223, N=120) =566.03, p=.000 indicates that the model cannot be accepted. The remaining indicators of goodness of fit also showed that the model is inadequate, RMSEA (.11), AGFI (.67), CFI (.75), and PGFI (.59). There were also problems with one of the factors. As shown in Table 19, the regression path from strategies to achievement was not significant and with considerable standard error. Table 20 shows that all the regression paths from the indicators to the unobserved variables were significant.

Of the significant paths to achievement, language aptitude had the highest path coefficient to achievement (.42), which suggests a moderate positive relation between language aptitude and language achievement. The parameter estimate from motivation to achievement was set to 1.00 to achieve identification, but the path coefficient is very small (.02) which means that the effect of motivation on language achievement is very small. The direct effect of attitudes on motivation was significant, with a standardized regression weight of 1.19. This suggests a strong positive correlation between attitudes and motivation.

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Figure 19. Full structural model.

Achievement: Second Language Achievement; List: Listening; Speak: Speaking; Writ: Writing; Read: Reading; Aptitude: Language Aptitude; HW: Hidden Words; MW: Matching Words; FR: Finding Rhymes; NL: Number learning; Attitudes: Language Attitudes; TEVAL: Teacher Evaluation; CEVAL: Class Evaluation; ATG: Attitudes Toward target Group; IFL: Interest in Foreign languages; INTOR: Integrative Orientation; Motivation: Motivation; IM: Instrumental Orientation; DLE: Desire to Learn English; MI: Motivational Intensity; ATLE: Attitudes Toward Learning English; Strategies: Language Learning Strategies; MEM: Memory; COG: Cognitive; COMP: Compensation; MCOG: Metacognitive; AFF: Affective; SOC: Social.

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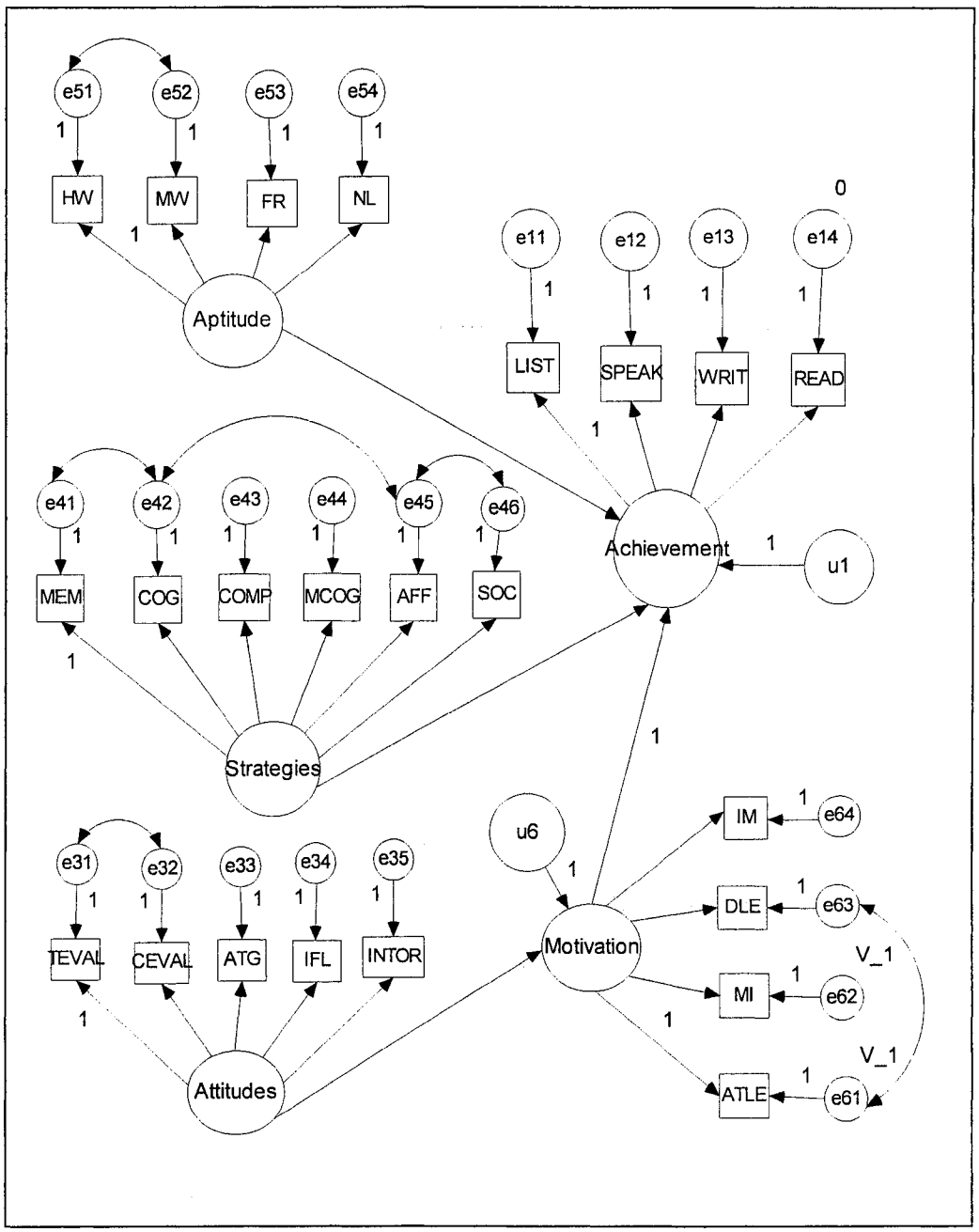

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Figure 20. Full structural model with standardized estimates.

Achievement: Second Language Achievement; List: Listening; Speak: Speaking; Writ: Writing; Read: Reading; Aptitude: Language Aptitude; HW: Hidden Words; MW: Matching Words; FR: Finding Rhymes; NL: Number learning; Attitudes: Language Attitudes; TEVAL: Teacher Evaluation; CEVAL: Class Evaluation; ATG: Attitudes Toward target Group; IFL: Interest in Foreign languages; INTOR: Integrative Orientation; Motivation: Motivation; IM: Instrumental Orientation; DLE: Desire to Learn English; MI: Motivational Intensity; ATLE: Attitudes Toward Learning English; Strategies: Language Learning Strategies; MEM: Memory; COG: Cognitive; COMP: Compensation; MCOG: Metacognitive; AFF: Affective; SOC: Social.

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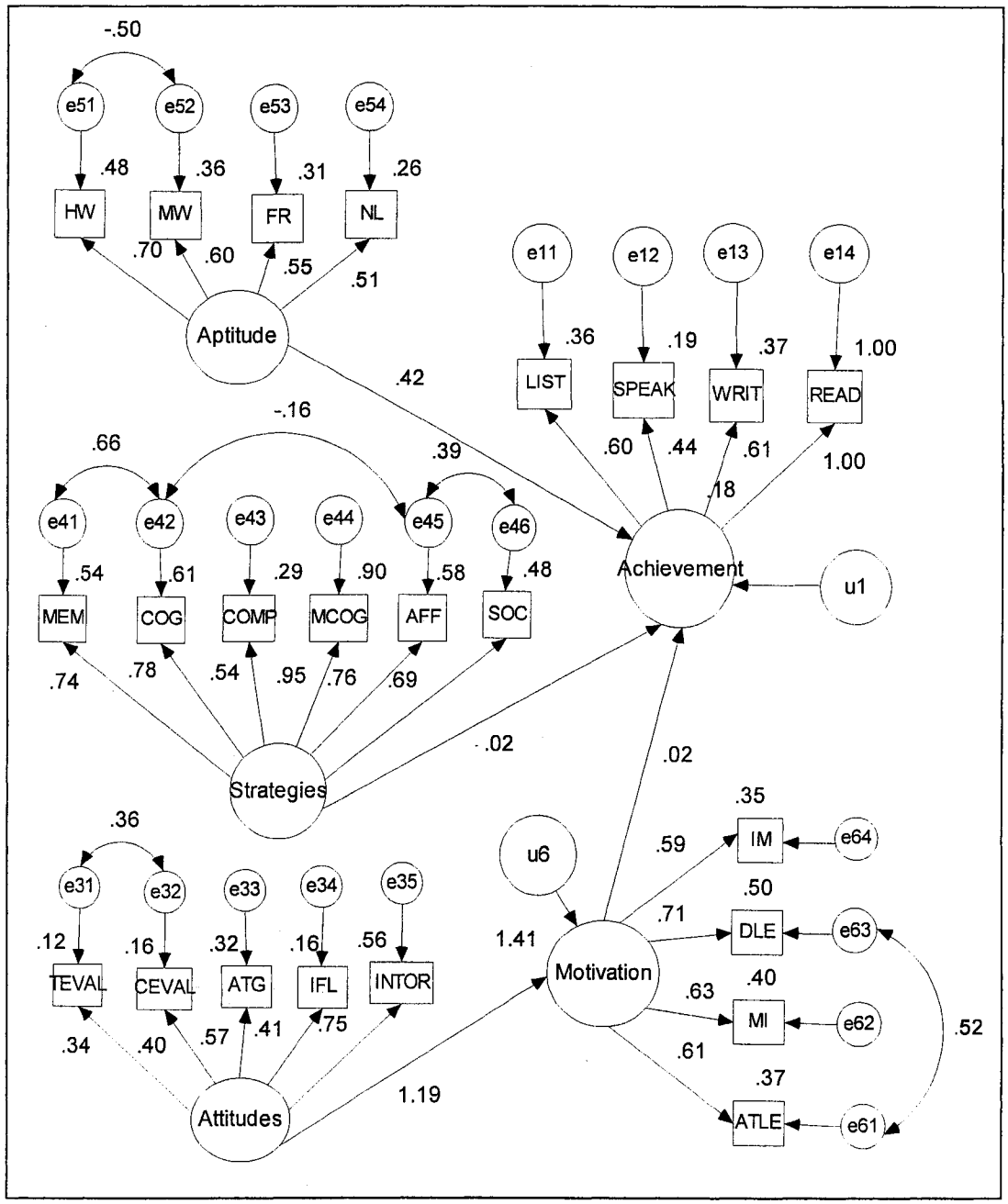

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Table 19

Path Coefficients of the Full Structural Model

	Estimate	S.E.	*p*
Attitudes to Motivation	2.15	.61	<.001
Motivation to Achievement	1.00	*	*
Aptitude to Achievement	1.25	.41	.002
Strategies to Achievement	.65	2.47	.793

* Regression weight fixed at 1.00. Not estimated.

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Table 20

Regression Weights of the Full Structural Model

Indicator	Latent Factor	Estimate	S.E.	*P*
Listening	Achievement	1.00	*	*
Speaking	Achievement	1.79	.40	<.001
Writing	Achievement	1.16	.20	<.001
Reading	Achievement	1.34	.17	<.001
Compensation	Strategies	.68	.12	<.001
Attitudes Toward Group	Attitudes	2.04	.58	<.001
Teacher Evaluation	Attitudes	.71	.19	<.001
Class Evaluation	Attitudes	1.00	*	*
Integrative orientation	Attitudes	1.34	.36	<.001
Interest in Foreign Languages	Attitudes	2.63	.70	<.001
Memory	Strategies	1.33	.44	.002
Cognitive	Strategies	1.00	*	*
Affective	Strategies	.89	.06	<.001
Metacognitive	Strategies	1.16	.14	<.001
Social	Strategies	1.12	.12	<.001
Number Learning	Aptitude	.95	.13	<.001
Matching Words	Aptitude	.67	.18	<.001
Finding Rhymes	Aptitude	.90	.24	<.001
Hidden Words	Aptitude	1.00	*	*
Instrumental Orientation	Motivation	9.70	1.71	<.001
Attitudes Toward Learning	Motivation	1.00	*	*
Motivational Intensity	Motivation	1.06	.18	<.001
Desire to Learn English	Motivation	1.37	.15	<.001

* Regression weight fixed at 1.00. Not estimated.

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To improve the lack of adequacy of the structural model and the unacceptable parameters, the modifications indices suggested several respecifications. However, the highest improvement of the discrepancy was estimated to be 38.09 for covariances, and 30.19 for regressions. Given that the value of the χ^2 was about 566 with 223 degrees of freedom, the discrepancy would need to be reduced by 120 to achieve a marginally acceptable χ^2, so the changes would be inconsequential. Establishing those links would also negatively affect the parsimony of the model. For this reason only one respecification was made, the whole factor language learning strategies was dropped from the model, and the full structural model was assessed again.

Figure 21 shows the full structural model with the factor language learning strategies removed. The remaining elements of the model were left the same.

Removing the factor language-learning strategies improved the fit of the model significantly. The value of the χ^2 decreased from 810 to 322. All the other indicators of overall fit improved considerably. The RMSEA (.10) and the CFI (.82) could be considered acceptable, but the AGFI (.75), and the PAGFI (.61) indicate an unacceptable fit. The value of the χ^2 (115, N=120) = 241, p=.000, although improved, remained above the limits for accepting models, even with larger samples than the one used in the present study. Two additional problems of this model are the path from attitudes to motivation, which is 1.19, an unacceptable value for a standardized coefficient, and the negative variance of the error term for motivation. Figure 22 presents the standardized estimates of the respecified full structural model.

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Figure 21. Respecified full structural model.

Achievement: Second Language Achievement; List: Listening; Speak: Speaking; Writ: Writing; Read: Reading; Aptitude: Language Aptitude; HW: Hidden Words; MW: Matching Words; F: Finding Rhymes; NL: Number learning; Attitudes: Language Attitudes; TEVAL: Teacher Evaluation; CEVAL: Class Evaluation; ATG: Attitudes Toward target Group; IFL: Interest in Foreign languages; INTOR: Integrative Orientation; Motivation: Motivation; IM: Instrumental Orientation; DLE: Desire to Learn English; MI: Motivational Intensity; ATLE: Attitudes Toward Learning English.

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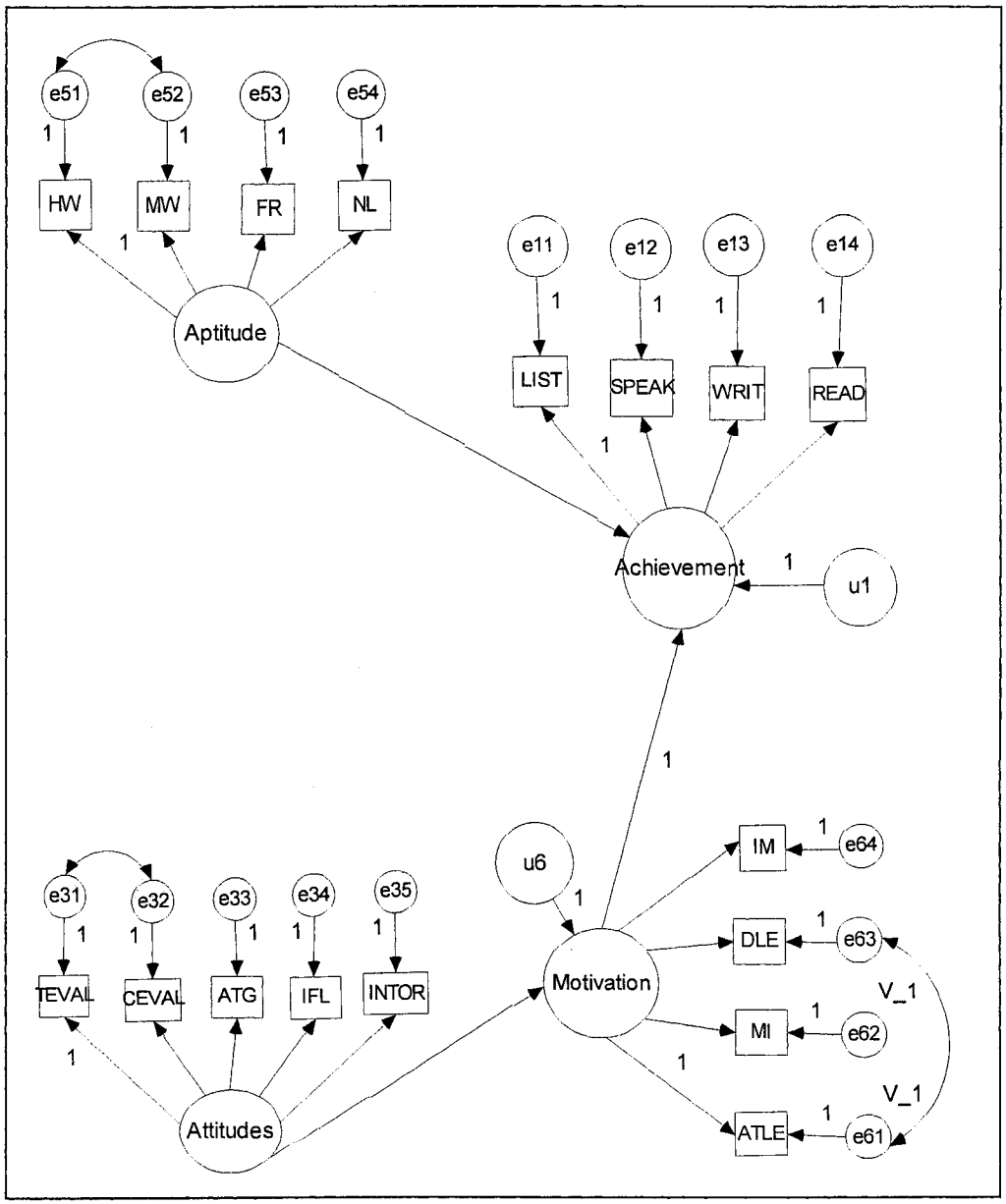

Figure 21. Respecified full structural model.

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Figure 22. Respecified full structural model with standardized estimates.

Achievement: Second Language Achievement; List: Listening; Speak: Speaking; Writ: Writing; Read: Reading; Aptitude: Language Aptitude; HW: Hidden Words; MW: Matching Words; F: Finding Rhymes; NL: Number learning; Attitudes: Language Attitudes; TEVAL: Teacher Evaluation; CEVAL: Class Evaluation; ATG: Attitudes Toward target Group; IFL: Interest in Foreign languages; INTOR: Integrative Orientation; Motivation: Motivation; IM: Instrumental Orientation; DLE: Desire to Learn English; MI: Motivational Intensity; ATLE: Attitudes Toward Learning English

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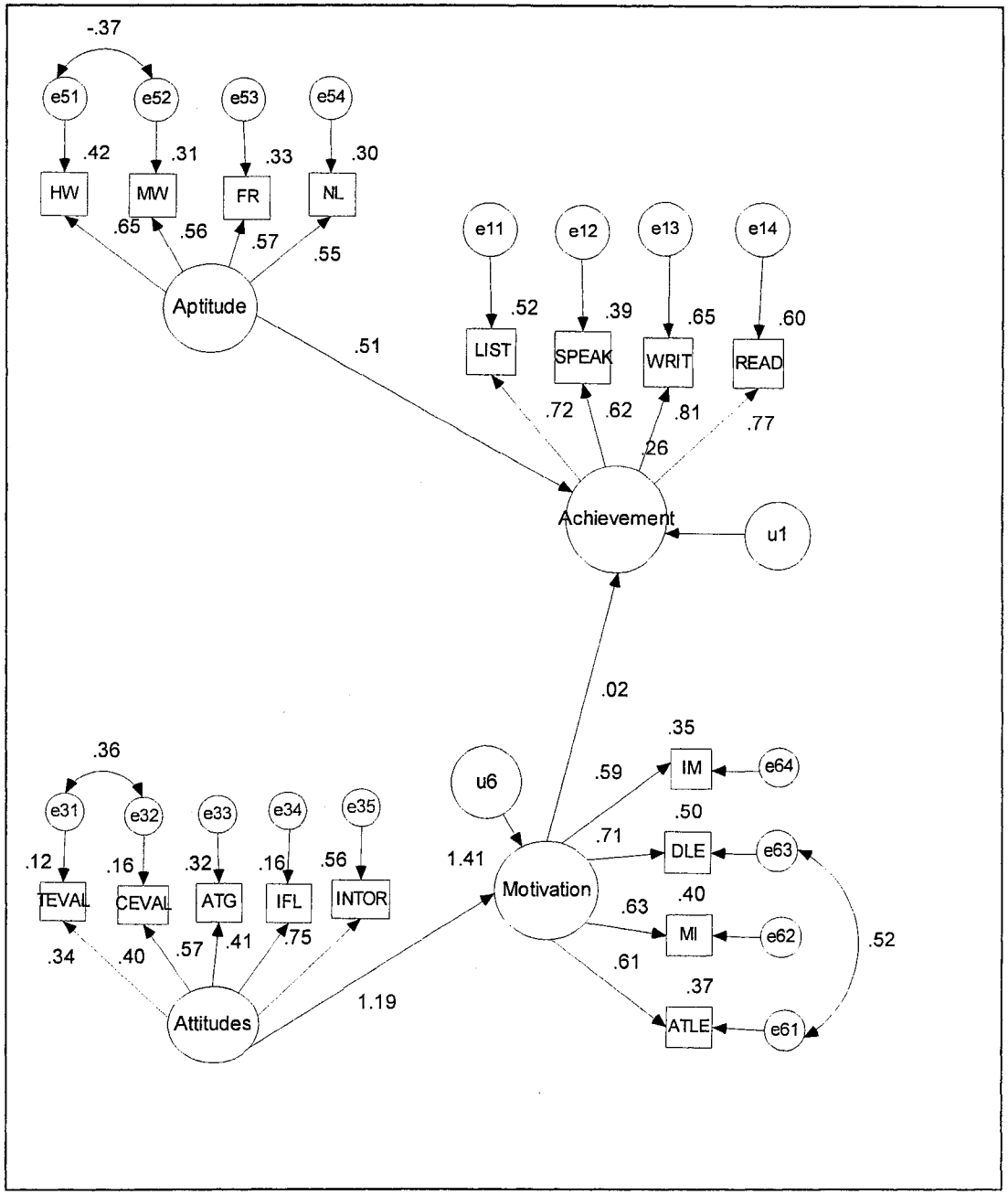

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Tables 21 and 22 show that all the path coefficients and regression weights of this model were significant. However, due to the negative variance of the error term of motivation and the larger than 1 standardized estimate from attitudes to motivation, the solution of this model was not acceptable. To find an acceptable solution, the variance for the error term of motivation was set to 1, and the covariance between the error terms of desire to learn English and attitudes toward learning English (e63 and e61) was removed and the model was assessed again. Figure 23 presents the final respecifications made to the model.

Table 21

Path Coefficients of the Respecified Full Structural Model

	Estimate	S.E.	*p*
Attitudes to Motivation	2.15	.61	<.001
Motivation to Achievement	1.00	*	*
Aptitude to Achievement	1.97	.58	<.001

* Regression weight fixed at 1.00. Not estimated.

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Table 22

Regression Weights for Respecified Full Structural Model

Indicator	Latent Factor	Estimate	S.E.	*p*
Listening	Achievement	1.00		*
Speaking	Achievement	2.10	.35	<.001
Writing	Achievement	1.28	.17	<.001
Reading	Achievement	.86	.12	<.001
Attitudes Toward Group	Attitudes	2.04	.59	<.001
Teacher Evaluation	Attitudes	.82	.21	<.001
Class Evaluation	Attitudes	1.00	*	*
Integrative Orientation	Attitudes	1.34	.36	<.001
Interest in Foreign Languages	Attitudes	2.64	.70	<.001
Number Learning	Aptitude	1.33	.44	.002
Matching Words	Aptitude	.67	.19	<.001
Finding Rhymes	Aptitude	1.00	.25	<.001
Hidden Words	Aptitude	1.00	*	*
Instrumental Orientation	Motivation	9.71	1.71	<.001
Attitudes Toward learning English	Motivation	1.00	*	*
Motivational Intensity	Motivation	1.06	.18	<.001
Desire to Learn English	Motivation	1.37	.15	<.001

* Regression weight fixed at 1.00. Not estimated.

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Figure 23. Final respecified full structural model.

Achievement: Second Language Achievement; List: Listening; Speak: Speaking; Writ: Writing; Read: Reading; Aptitude: Language Aptitude; HW: Hidden Words; MW: Matching Words; F: Finding Rhymes; NL: Number learning; Attitudes: Language Attitudes; TEVAL: Teacher Evaluation; CEVAL: Class Evaluation; ATG: Attitudes Toward target Group; IFL: Interest in Foreign languages; INTOR: Integrative Orientation; Motivation: Motivation; IM: Instrumental Orientation; DLE: Desire to Learn English; MI: Motivational Intensity; ATLE: Attitudes Toward Learning English.

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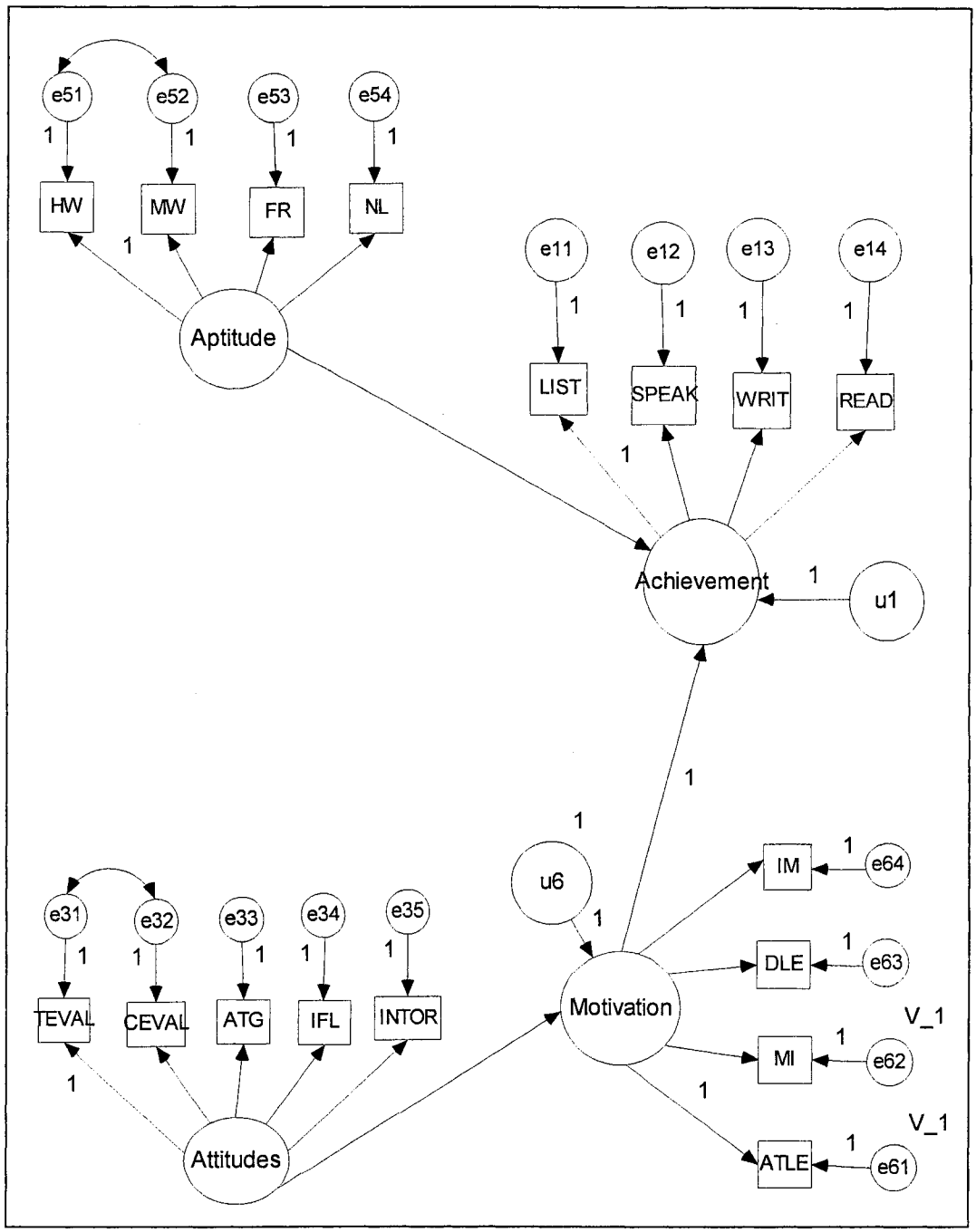

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In this final model, the value of the χ^2 increased from 322 to 419. All the other indicators also showed loss of overall fit; RMSEA (.15), CFI (.57), AGFI (.68), and the PAGFI (.58) indicate again an unacceptable fit. The value of the χ^2 (115, N=120) = 419, p<.001, indicated a lack of fit of this model. Even with these respecifications, the model failed to achieve an acceptable fit.

Figure 24 presents the standardized estimates of the final model. Again, the path from motivation to achievement was set to 1 to achieve identification. As shown in Table 23, all the paths connecting the latent factors are significant. Table 24 shows that the regression weights of all the indicators in each latent factor were also significant.

The factors with a direct effect on achievement were motivation and language aptitude. The path from language aptitude to achievement is the strongest (.51). The scale hidden words was the dominant indicator in this factor. The path coefficient from motivation remained very small (.05), but significant. Desire to learn English was the dominant variable in the motivation factor, but the other indicators had uniformly high parameter estimates.

Table 23

Path Coefficients of the Final Rrspecified Full Structural Model

	Estimate	S.E.	*p*
Attitudes to Motivation	3.07	1.39	.027
Motivation to Achievement	1.00	*	*
Aptitude to Achievement	1.98	.58	<.001

* Regression weight fixed at 1.00. Not estimated.

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Figure 24. Final specified full structural model with standardized estimates.

Achievement: Second Language Achievement; List: Listening; Speak: Speaking; Writ: Writing; Read: Reading; Aptitude: Language Aptitude; HW: Hidden Words; MW: Matching Words; F: Finding Rhymes; NL: Number learning; Attitudes: Language Attitudes; TEVAL: Teacher Evaluation; CEVAL: Class Evaluation; ATG: Attitudes Toward target Group; IFL: Interest in Foreign languages; INTOR: Integrative Orientation; Motivation: Motivation; IM: Instrumental Orientation; DLE: Desire to Learn English; MI: Motivational Intensity; ATLE: Attitudes Toward Learning English.

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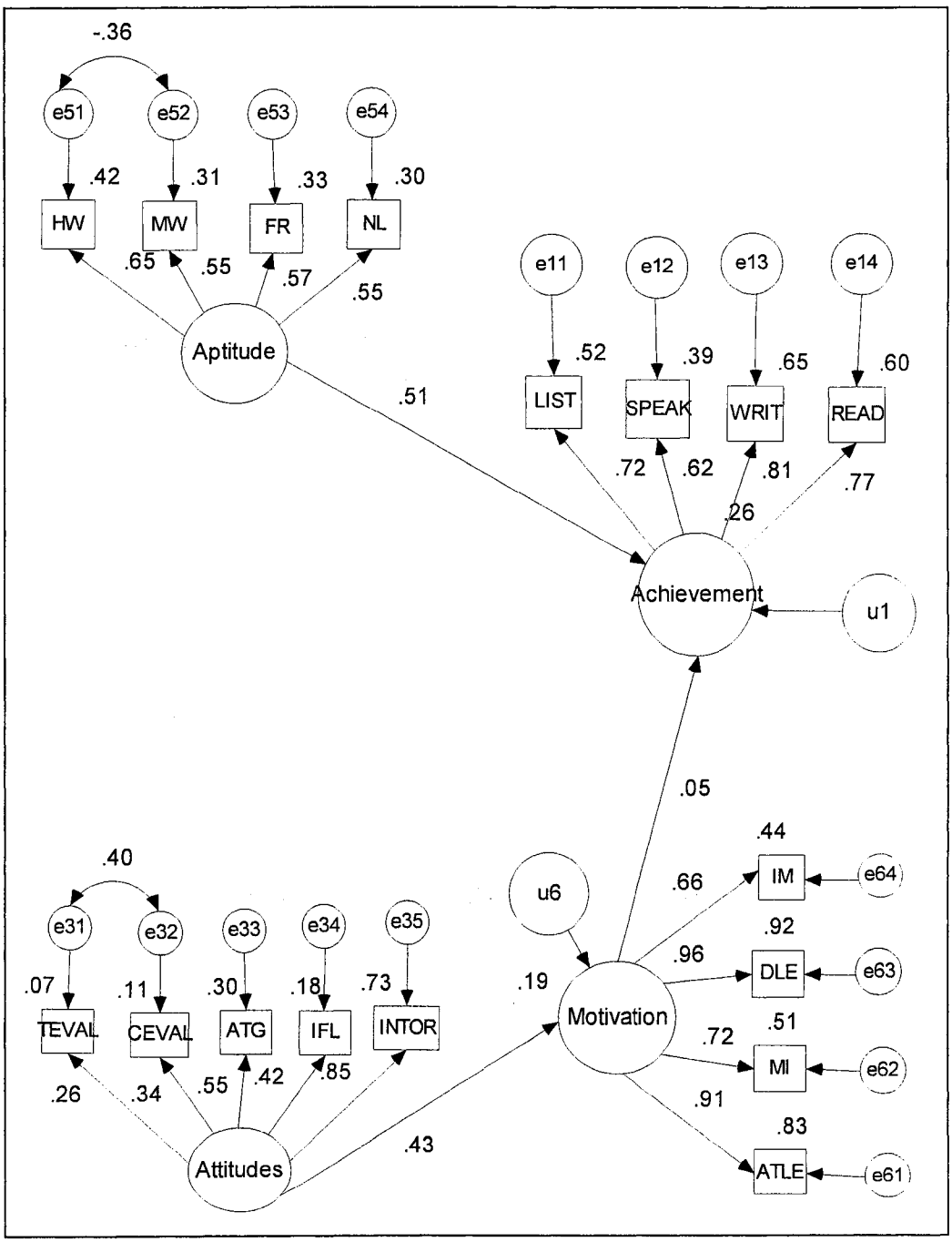

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Table 24

Regression Weights for Final Respecified Full Structural Model

Indicator	Latent Factor	Estimate	S.E.	*p*
Listening	Achievement	1.00		*
Speaking	Achievement	2.10	.34	<.001
Writing	Achievement	1.27	.17	<.001
Reading	Achievement	.86	.12	<.001
Attitudes Toward Group	Attitudes	2.60	1.10	.018
Teacher Evaluation	Attitudes	.82	.21	<.001
Class Evaluation	Attitudes	1.00		*
Integrative Orientation	Attitudes	1.50	.57	.009
Interest in Foreign Languages	Attitudes	3.99	1.68	.017
Number Learning	Aptitude	1.83	.83	.026
Matching Words	Aptitude	.67	.19	<.001
Finding Rhymes	Aptitude	1.00	.25	<.001
Hidden Words	Aptitude	1.00		*
Instrumental Orientation	Motivation	4.26	.48	<.001
Attitudes Toward learning English	Motivation	1.00		*
Motivational Intensity	Motivation	.47	.05	<.001
Desire to Learn English	Motivation	.92	.05	<.001

* Regression weight fixed at 1.00. Not estimated.

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The mediated effect of attitudes through motivation continued to be problematic, due to the small estimate of motivation to achievement (.05). Integrative orientation was the variable with the highest parameter estimate and the highest squared multiple correlation. The weakest variables in this factor were the two evaluations of the learning environment. Teacher evaluation had a standardized estimate of .34 and class evaluation was .40. As predicted by the socioeducational model, the path coefficient from attitudes to motivation (.43) suggests that attitudes have a strong effect on motivation.

The fit of this full structural model was still an inadequate representation of the data collected in the present study. The respecifications suggested in the modification indices would lower the discrepancy by less than 18 points each, which would not be enough to achieve an adequate fit. In accordance with the strictly confirmatory nature of this analysis, the model was not respecified again. The conclusion of this analysis is that the model specified by Gardner, Tremblay, and Masgoret (1997) is not adequate to explain SLA in elementary school students. The socioeducational model needs revision in order to explain SLA in this particular population.

Motivational and Aptitudinal Variables as Predictors of SLA

A set of multiple regression analyses was conducted to answer research question 4: Are motivational variables better predictors of SLA than aptitudinal variables?

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The regressions were conducted using SPSS 14.0. The backward variable selection criterion was used. The socioeducational model states that motivation is a necessary factor for students with high aptitude to be successful at learning a second language. The motivational variables used as predictors were integrative orientation, instrumental orientation, desire to learn English, and motivational intensity. The first three variables had been transformed to achieve normality. The aptitudinal variables included all four scales of the Modern Language Aptitude test: hidden words, matching words, finding rhymes, and number learning. The analyses used the backward selection method and the necessary assumptions were tested, including normality, linear relationship between variables, tolerance and collinearity (Lattin, Carroll, & Green, 2003). The regressions revealed that aptitudinal variables were better predictors of second language achievement.

Table 25 presents the descriptive statistics for the variables used in the regressions and Table 26 presents their correlations.

The first regression used the overall score of second language achievement as dependent variable. The regression model had a moderate fit ($R^2 = 0.24$), but the overall model was significant ($F = 11.78$, $p<005$). The significant predictors in the final model included three variables, all aptitudinal. Table 27 presents the results of this regression analysis. Only one aptitudinal scale, hidden words, was left out of the final equation. All three variables relate positively to the overall acquisition of English as second language. The best predictor in this regression was number learning (β =0.27), followed by hidden words (β = 0.24) and rhyming words (β =

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Table 25

Descriptive Statistics for Motivational and Aptitudinal Variables

	Mean	Standard Deviation	N
Integrative Orientation	17.30	5.43	118
Instrumental Orientation	16.33	6.24	118
Desire to Learn English	16.92	5.34	118
Motivational Intensity	3.92	.65	118
Hidden Words	15.09	7.96	118
Matching Words	13.99	6.27	118
Finding Rhymes	21.23	9.09	118
Number Learning	15.64	7.78	118

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Table 26

Correlations Between Motivational and Aptitudinal Variables

	Int Or	Inst Or	DLE	MI	MLAT HW	MLAT MW	MLAT FR	MLAT NL
Int Or	1.00	.60	.59	.51	-.04	.27	.09	-.11
Inst Or	.60	1.00	.44	.35	.01	.13	-.01	-.21
DLE	.59	.44	1.00	.40	-.18	.20	-.04	-.17
MI	.51	.35	.40	1.00	-.06	.11	-.01	-.19
MLAT HW	-.04	.01	-.18	-.06	1.00	.13	.42	.39
MLAT MW	.27	.13	.20	.11	.13	1.00	.28	.25
MLAT FR	.09	-.00	-.04	-.01	.42	.28	1.00	.21
MLAT NL	-.11	-.21	-.17	-.19	.39	.25	.21	1.00

Int Or: Integrative Orientation; Inst Or: Instrumental Orientation; DLF: Desire to Learn English; MI: Motivational Intensity; MLAT HW: Modern Language Aptitude Test, Hidden Words; MLAT MW: Modern Language Aptitude Test, Matching Words; MLAT FR Modern Language Aptitude Test, Finding Rhymes; MLAT NL: Modern Language Aptitude Test, Number learning.

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.18). From this analysis it is clear that in the sample, aptitudinal variables were better predictors of second language achievement than motivational variables.

Table 27

Regression Analysis for Language Achievement

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Hidden Words	1.04	.39	.24	2.71	.01
Finding Rhymes	.54	.26	.18	2.07	.04
Number Learning	.97	.30	.27	3.20	.00

Further analyses were conducted for each of the four separate language domains. The regression for listening included only two aptitudinal variables. In this case the regression model was also significant ($F = 9.241, p < 0.005$). This was the weakest model of all the regression analyses performed, accounting for only a very small amount of the variance of language achievement ($R^2 = 0.14$). Table 28 presents the results of this regression analysis. There were only two significant predictors in the final model, number learning ($\beta = .23$), and matching words ($\beta = 0.24$). Again, both variables were aptitudinal and they had a positive relation with achievement in listening. This regression also showed that aptitudinal variables were better predictors of achievement in listening in a second language than motivational variables.

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Table 28

Regression Analysis for Listening

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
Matching Words	1.05	.40	.24	2.65	.009
Number Learning	.83	.32	.23	2.60	.010

The regression for speaking was also significant ($F = 5.504$, $p < 0.005$), and it explained a moderate amount of variance ($R^2 = 0.19$). The regression model included five significant predictors. As shown in Table 29, three of the variables were aptitudinal: number learning ($\beta = 0.32$), hidden words scale of the MLAT ($\beta =$ -0.25), and finding rhymes ($\beta = 0.22$). The two motivational variables were integrative orientation ($\beta = .28$) and desire to learn English ($\beta = -.23$). Hidden words and desire to learn English had negative regression coefficients.

Table 29

Regression Analysis for Speaking

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
Integrative orientation	3.55	1.32	.28	2.68	.008
Desire to Learn English	-2.98	1.35	-.23	-2.20	.030
Hidden Words	-2.15	.85	-.25	-2.52	.013
Finding Rhymes	1.62	.70	.22	2.30	.023
Number Learning	2.75	.81	.32	3.42	.001

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The regression for reading was also significant ($F = 13.120, p < 005$), with a moderate amount of explained variance ($R^2 = 0.18$). As shown in Table 30, the two significant predictors left in the model were aptitudinal: matching words ($\beta = 0.35$), and number learning ($\beta = 0.18$). Both had a positive relationship with reading. This analysis also supports the dominant role of aptitudinal variables in predicting speaking in a second language.

Table 30

Regression Analysis for Reading

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
Matching Words	1.23	.31	.35	3.99	.000
Number Learning	.52	.25	.18	2.08	.039

The last analysis conducted was the regression for writing. Table 31 presents the results of this regression. The fit of this regression model is moderate ($R^2 = 0.20$). According to the variance analysis the model was significant ($F = 9.791, p < 0.005$). Once again, all the variables in the final model were aptitudinal. Of the three significant predictors in the final model, the best predictor was number learning ($\beta = 0.24$), followed by finding rhymes ($\beta = 0.21$), and matching words ($\beta = 0.18$).

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Table 31

Regression Analysis for Writing

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Matching Words	.92	.45	.18	2.04	.044
Finding Rhymes	.73	.31	.21	2.37	.019
Number Learning	.99	.36	.24	2.78	.006

Instrumental and Integrative Orientations as Predictors of SLA

Multiple regression analysis was also performed to answer research question 5: Is integrative orientation a better predictor of SLA than instrumental orientation?

The variables instrumental orientation and integrative orientation were used as predictors in five analyses. The five dependent variables were the overall scores of language acquisition and the four language domains: speaking, listening, reading, and writing. The score for overall language acquisition is a composite score comprised of 35% reading, 35% writing, 15% listening, and 15% speaking. Table 32 shows the correlations among the variables.

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Table 32

Correlations Between Integrative Orientation and Instrumental Orientation

	ACCESS Overall score	Integrative Orientation	Instrumental Orientation
ACCESS Overall score	1.00	.06	-.07
Integrative Orientation	.06	1.00	.60
Instrumental Orientation	-.07	.60	1.00

The five regressions were nonsignificant. The variance analysis of the regression shows that the amount of variance accounted for by the model in every case was minimal; the highest R square was .01. From these analyses, neither integrative orientation nor instrumental orientation is useful in predicting the acquisition of second language or any of the language domains.

The lack of significance was not due to high multicollinearity. Both the tolerance and the variance inflation factor (VIF) in all the regressions were within acceptable limits. From these analyses we can conclude that neither integrative nor instrumental motivations are significant predictors of second language achievement in elementary school students.

ANOVA Analysis

A series of variance analyses were conducted to answer research question number 6: Are there gender differences in SLA?

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The variance analyses used the five scores of second language achievement as the dependent variable, with the overall score of the ACCESS for ELLs and each of the four language domains and gender as the independent variable. Table 33 presents the descriptive statistics of the groups of boys and girls in second language achievement.

The null hypothesis tested in this section is that there are no significant differences in the means of boys and girls in language achievement.

Table 33

Descriptive Statistics of Second Language Achievement by Gender

	Boys			Girls		
	N	Mean	Standard Deviation	N	Mean	Standard Deviation
ACCESS Overall score	54	342.57	23.28	64	331.44	30.04
Listening	54	360.02	28.23	64	357.94	29.06
Speaking	53	335.68	58.52	64	315.86	75.71
Reading	54	341.65	20.75	64	333.72	23.44
Writing	54	338.28	28.89	64	324.44	33.57

Only the analyses using the overall score and writing as dependent variables were significant. The effect of gender was significant in the case of the overall score of language achievement, $F(1, 116) = 4.93$, $p = 0.028$. The boys' group ($N = 54$, $M = 342.57$, $SD = 23.28$) was higher than the girls' group ($N = 64$; $M = 331.44$, $SD =$

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30.04). The other significant effect of gender was in writing $F(1, 116) = 5.65$ $p = .019$. Again, the boys' group had higher scores in writing ($M = 338.28$, $SD = 28.89$) than the girls' group ($M = 324.44$, $SD = 33.57$). Additionally, gender had a marginally significant effect on reading $F(1, 116) = 3.72$ $p = .056$. Once more, the boys' group had higher scores in reading ($M = 341.65$, $SD = 20.75$) than the girls' group ($M = 333.72$, $SD = 23.44$).

Although there were two significant variables and one marginally significant, the effect size of gender was small even in the case of those three variables. The partial Eta squared for writing was the highest with .046, which means that gender accounts for only 4.6% of the variance. The other two variables explained even less variance, overall language achievement score only 4.1%, and reading 3.1%. These results are reported in Table 34.

Table 34

Summary of ANOVA Analyses with Gender as Independent Variable and Language Achievement, Listening, Speaking, Reading, and Writing as Dependent Variables

Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
ACCESS Overall score	3632.41	1	3632.41	4.93	.028	.041
Listening	126.84	1	126.84	.15	.695	.001
Speaking	11388.63	1	11388.63	2.43	.122	.021
Reading	1841.50	1	1841.50	3.72	.056	.031
Writing	5610.24	1	5610.24	5.65	.019	.046

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Another ANOVA was conducted to assess the effect of gender on the use of language-learning strategies. The hypothesis tested with these analyses was that there were no significant differences in the means of boys and girls in the use of language-learning strategies. Table 35 presents the descriptive statistics of the use of language-learning strategies by the groups of boys and girls. Table 36 presents a summary of the results of the ANOVA. The analyses revealed no statistically significant differences in the use of strategies to learn a second language between boys and girls.

Table 35

Descriptive Statistics of Language Learning Strategies by Gender

	Boys			Girls		
	N	Mean	Standard Deviation	N	Mean	Standard Deviation
Memory	53	3.60	.71	62	3.7	.91
Cognitive	53	3.72	.62	62	3.9	.75
Compensation	53	3.26	.61	62	3.37	.88
Metacognitive	53	3.87	.59	62	3.98	.82
Affective	53	3.39	.86	62	3.63	.99
Social	53	3.52	.77	62	3.70	.89

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Table 36

Summary of ANOVA Analyses With Gender as Independent Variable and Language Learning Strategies as Dependent Variables

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Memory	.59	1	.59	.87	.354	.008
Cognitive	.87	1	.87	1.83	.179	.016
Compensation	.37	1	.37	.62	.433	.005
Metacognitive	.34	1	.34	.64	.424	.006
Affective	1.73	1	1.73	1.99	.162	.017
Social	.97	1	.97	1.38	.242	.012

ANCOVA Analysis

A series of analyses of covariance (ANCOVA) was performed to answer research question 7: How does age affect attitudinal variables in elementary school students?

The ANCOVA analyses used each attitudinal variable measured in the How We Learn English instrument as the dependent variable, with age as the independent variable. The control variable, or covariate in the analysis for this section, was language achievement. Table 37 presents a summary of the ANCOVA analyses.

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Table 37

Summary of ANCOVA Analyses With Age as Independent Variable and Attitudinal Variables as Dependent Variables

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
English class anxiety	.20	3	.07	.09	.967	.002
English use Anxiety	1.98	3	.66	1.01	.389	.027
Instrumental Orientation	.12	3	.04	.05	.986	.001
Integrative Orientation	1.32	3	.44	.80	.496	.021
Interest in Foreign languages	.99	3	.33	.70	.557	.018
Motivational Intensity	5.46	3	1.82	4.69	.004	.113
Self Confidence	4.77	3	1.59	3.70	.014	.091
Desire to Learn English	180.83	3	60.28	2.19	.093	.056
Integrative Orientation	59.07	3	19.69	.66	.580	.017
Instrumental Motivation	9.37	3	3.12	.08	.971	.002

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The only two variables affected significantly by age were motivational intensity $F(3,111)= 4.69$, $p=.004$, and self-confidence $F(3,111)=3.70$, $p=.014$. Tables 38 and 39 present the descriptive statistics of the two variables with the sample divided into groups by years of age. Both the values of motivational intensity and self-confidence decrease significantly with age. A post hoc analysis using a Bonferroni adjusted alpha level of .008 per test (.05/6) revealed that in the case of motivational intensity, the group of the 9-year-old participants had a significantly higher mean ($M=4.21$, $SD=.58$), than both the 11-year-old group ($M=3.76$, $SD=.60$), $p=.029$, and the 12-year-old group ($M=3.52$, $SD=.84$), $p=.003$. In the case of self-confidence there was only one significant difference. The group of 9-year-old participants ($M = 4.21$, $SD = .51$) had a significantly higher mean than the 12-year-old group (M=3.45, SD=1.08), $p=.01$. However, in this case the Levene test of homogeneity of variances is significant $F(3,112) = 4.12$, $p = .008$. From this analysis we can conclude that the effect of age on attitudinal variables was limited to self-confidence and motivational intensity, which decrease with age.

The assessment of the socioeducational model as specified by Gardner, Tremblay and Masgoret (1997) showed that it is inadequate as a representation of how elementary students acquire English as a second language. The multiple regressions showed that, contrary to the predictions of the socioeducational model, the aptitudinal variables are better predictors of SLA than motivation and attitudes. The additional analyses showed that gender and age had limited effects on SLA. The implications of these results will be discussed in Chapter 5.

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Table 38

Descriptive Statistics of Motivational Intensity by Age

Age of student	M	SD	N
9	4.21	.58	27
10	3.97	.56	45
11	3.76	.63	29
12	3.53	.84	15
Total	3.92	.65	116

Table 39

Descriptive Statistics of Self-Confidence by Age

Age of student	M	SD	N
9	4.21	.51	27
10	3.91	.60	45
11	3.79	.62	29
12	3.55	1.08	15
Total	3.90	.69	116

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CHAPTER 5

CONCLUSIONS

The present study attempted to assess the model proposed in an earlier study by Gardner, Tremblay, and Masgoret (1997), which investigated the relationships among the variables used by the socioeducational model of second language acquisition in elementary school students. The model as specified by Gardner was inadequate to explain second language learning in the sample.

Assessment of the Socioeducational Model

The confirmatory factor analyses showed that the models used in the full structural model were valid and corresponded to their theoretical specification. The confidence factor was not used to test the full structural model due to its anomalous parameters. The factors included in the full structural model were language aptitude, language-learning strategies, language attitudes, motivation, and language achievement.

Anxiety

In the present study the confidence factor was specified with the variables English class anxiety, English use anxiety, and self-confidence. This measurement

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model had problems with its theoretical specification. The factor did not correspond to the factor in the original study. In the original study, this factor included measures of anxiety, self-confidence, and self-assessment of the learner's proficiency. In the present study, the self-assessment of proficiency was not included and two measures of anxiety, English class anxiety and English use anxiety, were used instead. This specification of the factor resembled more the theoretical elaboration of anxiety by Horwitz, Horwitz and Cope (1986) than the original confidence factor by Clement (1980). Because the factor was removed from the full structural model, the amount of variance left unexplained in the present study is unknown.

In the present study, anxiety had a debilitating effect on second language achievement. The correlations between English class anxiety and English achievement, $r(118) = -.37, p < 0.01$, and English use anxiety and English achievement, $r(118) = -.28, p < 0.01$ were negative and significant in both cases. This means that higher scores in English achievement are associated with lower levels of anxiety. These results indicate that in an English as second language setting, and with elementary school students, anxiety has a debilitating effect on second language acquisition. However, these results do not clarify the role of anxiety in the socioeducational model. The questions of whether anxiety is a cause or an effect of second language achievement, and if its effects are important or moderate, still require further research.

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Motivation

The factor motivation remained significant in both the initial and the respecified structural models. However, its effect on second language achievement was much lower than the model would predict. In the original model its standardized estimate was .48, but in the present study, it was only .02. In a study with participants from a rural university, Benjamin (2003) found problems with the motivation scales used in the present study. The three components of motivational intensity, task orientation, work avoidance, and ego orientation, were combined with integrative orientation and instrumental orientation in a confirmatory factor analysis as indicators of the latent factor motivation to learn a second language. She found no support for the factor as specified and suggested three possible reasons. The first two refer to the instrument. The four items in each scale are too few and some items are unclear. For example, in the instrument she used, the item "Good Spanish proficiency will increase job opportunities" refers to Spanish as the language preferred by employers and a job as an extrinsic reward for learning French. Both elements in this item can be questioned. The consequences were decreased reliability and items loading in more than one scale. The present study used the same four item scales used by Benjamin. The third reason for the lack of validity of the factor motivation refers to the theoretical conception of the construct motivation to learn a second language. The integrative-instrumental dichotomy may be an oversimplification of the reasons students want to learn a second language. Students may be motivated by a desire for knowledge, curiosity, willingness to take new

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challenges, intellectual stimulation, and general need for achievement. In the present study, the reliability of the motivation scales was not problematic. However, the construct validity of the scales may require a revision. Motivation may even be domain-specific. Students may be motivated to read, but not to speak in English, or the factors that cause motivation to write may be different from the factors that affect motivation to listen (Mori, 2002). Another possibility is that motivation works differently for students with low language aptitude than for students with high language aptitude. Additionally, this factor may require a different theoretical elaboration. According to Oxford and Shearing (1994), the lack of consensus on a definition of second language motivation is one of the conditions clouding our comprehension of second language learning.

Adding to the complexity of the findings of the present study, the participants were acquiring English as second language, not as a foreign language, as part of their elementary education. The main manifestation of an integratively motivated individual is that he will actively seek contacts with the language and its group. In an English as a second language context, the behavioral differences between students with low and high integrative motivation would be reduced by the amount of instruction in the second language. In general, for the participants, low motivation to learn English did not mean that they would limit their contact with the English language. At school, the opportunities to learn English are the same for students with low motivation as for students with high motivation. Therefore, the role of motivation may have more limited impact on language achievement when the

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context is second language learning, rather than in an English as a foreign language context.

One last possibility that explains the problems with the factor motivation is that both instrumentality and integrativeness are only tendencies, not universals (Dornyei, 1990). According to this idea, in some situations, neither instrumental orientation nor integrative orientation would be important factors in second language achievement. Gardner (2001a) recognizes the possibility that individuals learning a second language may feel that both reasons apply at the same time, or that none of the two applies. Furthermore, motivation may be only an umbrella term that researchers use to encompass a number of variables that are the real originators of behavior. More studies about the construct validity of motivation to learn a second language could help to clarify the relation between motivation and language achievement.

Language Aptitude

The language aptitude factor was the strongest predictor of second language achievement in both full structural models assessed and in the multiple regressions conducted to predict the achievement in each language domain. In both structural models, the effect of language aptitude far surpassed the effect of motivation and the mediated effect of language attitudes. Contrary to the predictions of the socio-educational model, language achievement is more related to the language aptitude of

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the students than to their motivation or their attitudes toward the language and the situation in which the learning occurs.

The multiple regressions comparing language aptitude to motivational variables showed that aptitudinal variables were better predictors of second language achievement. Of the five multiple regressions, all included at least two aptitudinal variables, while only one included motivational variables. The strongest predictor was the number learning scale of the MLAT, which was significant in all the regressions. This indicates that the memory and auditory alertness components of this particular scale are related to second language achievement and to all the language domains. The only language domain in which motivational variables were significant was speaking. Speaking is also the most public language domain and the motivational variables may be involved more than when using more private language domains. In the socioeducational model, motivation determines the degree to which a learner will use his or her aptitude to learn a second language. In the present study, second language achievement was related to the aptitude of each student, regardless of how motivated he or she might be. These results seem to reduce the importance of motivation in acquiring a second language in the elementary school setting used in this study.

The apparent superiority of language aptitude over motivational and attitudinal variables is the most important challenge to the theoretical basis of the socioeducational model derived from the present study. However, the context of the study, English as second language, should be considered before dismissing the

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socioeducational model. As discussed in Chapter 2, motivation can be more important than aptitude in informal settings, outside of school, and aptitude can be more important in formal ones, such as the school context of the present study. Since this study was conducted in a school setting, aptitude is expected to contribute more to SLA than motivation. For the participants in the sample who are enrolled in a bilingual program in elementary schools, language aptitude determined achievement more than motivation. The learning experiences provided by the school were more beneficial for students with higher language aptitude levels.

Although these results could only be applied to elementary school students learning a second language, and the interpretation of these results is limited by the failure of the model to achieve good fit, they emphasize the need to make clear the role of aptitude in the model. The original study by Gardner, Tremblay, and Masgoret (1997) used a short version of the MLAT, so a direct comparison is not possible. If language aptitude is the dominant factor, and the role of motivation and attitudes is a minor one, then the possibility that the direction of causality is different should also be considered. According to Ganschow, Sparks, and Javorsky (1998), the achievement in English made possible by language aptitude could cause increased motivation and better attitudes. If future studies have similar findings, the socioeducational model would require a careful adaptation when used with elementary students. A conclusion derived from these results is that schools should design activities that benefit all students equally, regardless of their language aptitude.

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Language-Learning Strategies

The path from language-learning strategies was not significant in the first full structural model and it was not included in the respecified full structural model. The factor had a large standard error. The negative relation between language-learning strategies and language achievement in the original study by Gardner, Tremblay, and Masgoret (1997) was not found in the present study. Gardner and his collaborators suggested that students with a high level of prior proficiency, like their participants, do not feel the need to use every language learning strategy at their disposal. Only beginners would feel the need to have a wide repertoire of strategies to use in different situations. In the present study, there was no evidence of this progressive elimination of strategies. According to the CFA, the factor was a valid description of the strategies used to learn a language. The strategies, however, lacked predictive power in this particular model. If Gardner and his associates are right, and strategy use decreases with increased language command, one possible reason is that in students above the beginner level in an academic second language context, the use of language-learning strategies is inconsequential. Another possible reason for the non-significant relation between strategies and language achievement is that the strategies included in the factor are not representative of the strategies used by the participants in the sample to learn English as a second language. This factor was removed from the final full structural model.

The instrument used to measure language-learning strategies was the SILL. The instrument could be one of the sources of error. Since the SILL does not

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differentiate the strategies used in the different language domains, the possible difference between the language-learning strategies used in speaking, listening, reading, and writing were not measured. Some recommendations to improve the use of the SILL include a distinction between language use strategies and language-learning strategies. This could be helpful to improve the theoretical interpretation of the results of the SILL. However, the distinction between language use strategies and language-learning strategies would be difficult to apply in actual practice because it would be difficult to assume that a student is not learning when he is practicing the second language.

Language Attitudes

One of the factors that behaved as predicted was language attitudes. Its effect on language achievement was mediated by motivation, which had a small standardized estimate of (.02), so its effect was greatly reduced. Its role as a precursor of motivation was confirmed by the full structural model. The dominant variable was integrative orientation, one of the two reasons why people learn a second language and the most important according to the model. The small number of items mentioned in the discussion about motivation did not affect the significance of the variable.

The present study also found that gender had no effect in the use of language strategies, but that it had a significant effect on the overall measure of language achievement and writing, with the boys having higher scores. Additionally, the

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effect of age in motivational variables was limited to motivational intensity and self-confidence; in both cases the value of the variables decreased with age. Gardner and Lambert (1972) suggested that the nature of motivation in young children may respond more to a need to participate with peers than to extrinsic factors like rewards. These limited effects of gender and age are not in disagreement with the socioeducational model and allow us to interpret the full structural model for the whole sample. However, another interpretation is possible. Although motivational intensity and self-confidence were the only significant effects of age, the trend of values that decrease with age appeared in all the analyses. The reason that older participants were still enrolled in the bilingual program was that they had not reached the levels of proficiency established as criteria for exiting to a mainstream classroom. That would mean that the lack of English achievement could have had a negative impact on motivational and attitudinal variables. This would mean that the direction of the links could go from achievement to motivation and attitudes, at least in the case of participants with low achievement.

Full Structural Model

The full structural model was assessed twice. After the first model showed lack of adequacy, the factor language-learning strategies was dropped from the model. The respecified full structural model was also judged to be an inadequate representation of the data. In consideration of the strictly confirmatory approach of this study and the parsimony of the model, no further respecifications were made.

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Structural equation modeling is one of the preferred statistical techniques used by researchers interested in the socioeducational model (Gardner, 2001b). However, with the criteria used in the present study, the original model by Gardner, Tremblay and Masgoret (1997) would have been rejected. The criteria used by the authors of that study are usually applied in studies with much larger samples and all the goodness of fit indices are below the typical minimum accepted values. In studies using structural equation models, some changes responding more to statistical considerations than to the theoretical development of the model have been made. This makes it very difficult to replicate the results in different samples. In the original model, the direction of the path from achievement to confidence was suggested by the modification indices. Despite being a contradiction of their theory, the authors justified this modification based on purely methodological considerations. In other studies, integrativeness and attitudes toward the learning situation are two separate latent constructs (Gardner, 2001b). Changes like these make the use of structural equation modeling an exploratory, rather than a confirmatory, exercise and increase the difficulty of replicating the findings in different samples.

Implications for Further Research

The variables left in the final full structural model failed to represent the data. A possible solution for this problem is to include in the model additional variables not measured in the present study. The socioeducational model is an evolving model

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that has not yet adopted a definitive shape. New variables are being considered by researchers. Gardner (1985b) developed the idea of cultural milieu to refer to the social influences stemming from the immediate environment. It has been operationalized as the perceived influence of significant others such as parents, family, and friends. These variables were not measured in the present study. Two more variables that could be considered part of the cultural milieu are the vitality of the second language community and ethnolinguistic vitality. The first is the perceived importance and wealth of the community of the second language learner. Ethnolinguistic vitality refers to the distinctiveness of the group as a collectivity (Csizer & Dornyei, 2005). The scales for these variables were not available at the time of planning for the present study. Future studies might consider including these measures of cultural influences and other variables compatible with the model.

Another way to improve the model was suggested by Csizer and Dornyei (2005). They argue that motivation only explains why people behave as they do and not how successful they are. Therefore, the link between motivation and language acquisition should not be direct, but should be mediated by measures of behavior instead. MacIntyre, Clement, Dornyei, and Noels (1998) suggested that the real outcome in second language learning is willingness to communicate. A high score in language achievement would be useless if the student is not going to use the second language in social situations. Future studies may include willingness to communicate as a result of language achievement. Finally, an idea to take into consideration is that Sparks and Ganschow (1991) are correct, and differences in the

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acquisition of the first language is the most important factor in predicting differences in the acquisition of a second language. Future studies might include a measure of first language, and of problems in its acquisition, as part of the structural model.

The translation of the instrument used in the present study also posed a considerable challenge. There are three methods available to develop versions of instruments in different languages: translation and revision; translation, back translation and revision; and translation, back translation with review and empirical validation in a small sample. While the procedure used in the present study complied with the most current and desirable guidelines, involved three people, and included multiple readings and comparisons of the items, the only evidence that the translated instrument functions in the same way as the original instrument is the assurance that the procedure was conducted carefully. The involvement of more people, as in a committee of translators instead of a single translator, or increasing the number of steps in the procedure, as in several iterations of translations and back translations, only increase the complexity, but not the outputs, of each step of the process. The procedure used to translate instruments used in studies of the socioeducational model is rarely mentioned in the reports. Better procedures that ensure the equivalence of instruments across languages and provide evidence of their equivalence are necessary in studies assessing the socioeducational model. This may require a more meticulous description of the procedure followed in published articles, and a more complete disclosure of the psychometric characteristics of the instruments.

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The importance of scientific models is that they allow a better understanding of a process. Models are both products of scientific research and guides to future research. Developing and assessing models is essential to improve the application of scientific knowledge. But part of that development should be the adaptation of models that are not an accurate representation of the process. The socioeducational model includes variables that are important in the acquisition of a second language. However, the relations of those variables and the direction of causality can vary depending on the setting and the characteristics of the learners. The delimitation of the circumstances in which the model works will only strengthen its specific applications. The respecifications to the factors or the full structural models should agree with the theoretical model. Changes from confirmatory to exploratory make it very difficult to replicate results or make pertinent adaptations; therefore, they should not happen in rigorous studies. Studies using the socioeducational model should adopt the same criteria to assess the goodness of fit of models using SEM. Models with inadequate fit should be reported according to the generally accepted criteria. Metaanalyses and retrospective views on this field of research should also consider the improvements in the statistical techniques and criteria used to assess the model. The original study by Gardner being replicated in the present study can be considered as inadequate when analyzing the goodness of fit coefficients reported by the authors. Reluctance to report negative results could delay the modifications the socioeducational model needs to explain second language acquisition in specific populations.

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Even scientific models are by necessity a simplification of the process they represent. The present study measured 23 variables, and the lack of fit of the model means that it did not fully account for all the complexity of second language acquisition. The development of models that provide a better understanding of educational processes, their assessment, and the delimitation of their application is gaining importance. The ease of use of the tools for structural equation modeling makes the interpretation of these models accessible to an increasing number of researchers and educators. It is the opinion of the author of the present study that teachers should be able to interpret and evaluate models on a variety of topics and processes and base instructional decisions on their potential contributions. Even more important is that teachers have the knowledge necessary to adapt those practices that are not compatible with the research pertinent to the characteristics of the students they serve.

Limitations

The sample consisted of elementary school students enrolled in grades 4th to 6th in public schools in the school year 2004-2005. This study addressed a population rarely included in this type of study, but generalizations to other populations, even elementary school students, can be questioned. The reason is that the sample in this study was a convenience sample, which means that the characteristics of the students included in it may differ significantly from the characteristics of other English language learners.

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Another limitation concerns the measurement of the independent variables. The scales used in this study were originally developed for college students and, although they were properly adapted for the students included in the sample, this was their first use in a sample with these characteristics. Another limitation concerning measurement relates to the critique of Sparks, Ganschow, and Javorsky (2000) that studies including the measuring of affective variables related to language skills usually incur validity problems. Specifically, the authors contend that when designing an instrument to measure the level of reading anxiety, it is difficult for the participant to differentiate between reading skills and reading anxiety. For example, in the original instrument, the item "When reading (the FL), I often understand the words, but I can't quite understand what the author is saying" could be an indication of reading anxiety or reading comprehension. Therefore, it would not be clear exactly which variables it is really measuring. The same could be said when measuring attitudes towards the target language or the target group. One alternative to measuring affective variables like anxiety includes behavioral observation, which uses indicators such as fidgeting, reduced gaze, stuttering, and stammering. Another alternative is physiological assessments such as blood pressure, heart rate, galvanic skin response, and temperature. No research report currently available includes any of these alternatives to self-reports. Besides, these measures are not without problems. The first two seem to be poor measures of anxiety because there could be a number of reasons aside from apprehension that could cause the particular behavior or physiological reaction being measured. This limitation will remain in studies

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measuring anxiety until the available instruments improve their validity and reliability.

This was a correlational study and, as such, it cannot establish real causal relations. In this study, the causality was assumed in the model tested and not proved by the study. Gardner (1991) and Casado and Dereshiwsky (2004) acknowledged problems with the direction of causality between anxiety and language achievement. Anxiety had a detrimental effect on language learning; at the same time anxiety is caused by low proficiency in that language. The same could be said about motivation and language achievement, and language strategies and language achievement. Neither structural equation modeling nor confirmatory factor analysis can establish causality. Furthermore, both are susceptible to reverse or spurious causation (Campbell & Kenny, 1999). This is one of the reasons why correlational studies are considered behind experiments with random assignments and quasiexperiments in the scientifically based research hierarchy (Whitehurst, 2001).

One theoretical limitation would be that the socioeducational model is an inadequate description of how people learn a second language. The possibility that motivation, confidence, and anxiety are the results and not the cause of second language achievement has some evidence (Au, 1988; Sparks, Ganschow & Javorsky, 2000). However, to accept this, one would have to agree with the authors in that the real cause of differences in language achievement are difficulties in the native language acquisition, which would return SLA research to the isolated individual paradigm of the past.

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The interpretation of these findings also offers particular problems because there are very few studies with elementary school participants. The inadequacy of the model could be due in part to the particularities of the sample, some of which have been discussed in this document, but some of which are still unknown. The recent emphasis in assessing the achievement in elementary school children seems to leave the personality of the students and the social context of learning aside in favor of instruction and assessment that cover a very narrow area of education (Goldberg, 2004). Other views of education suggest that schools are responsible for more than just the momentary achievement in standardized scores (Jones, 2004). Schools could be considered also responsible for the emotional well-being of the students and for nurturing their desire to be lifelong learners. The value of Gardner's model (Gardner, Tremblay, & Masgoret, 1997) is that it calls attention to motivational variables in second language acquisition and the context in which the learning takes place. In classrooms, paying attention to these variables does not mean lowering the expectation of what Hispanic elementary school students can achieve. Rather, it means implementing activities that preserve or increase the positive attitudes toward learning the second language, helping the students understand the reasons why they learn English, and assisting the students with mastering the language strategies that are most successful, while increasing their confidence in their abilities. Classrooms that create opportunities for success and collaboration could also improve the motivation and attitudes of the students.

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The failure of the model in the present study to explain second language acquisition does not really challenge the validity of the socioeducational model. Instead, it reflects the need for adaptations to the model to make it applicable to younger students.

Summary

The socioeducational model as specified in this study failed to adequately fit the data collected. The measurement models used in the assessment of the full structural model had acceptable fit with the exception of the model confidence, which was dropped due to lack of fit, which suggests misspecification. The factor motivation was significant, but its standardized coefficient was lower than expected. Using commonly accepted indicators of goodness of fit, the model was judged to be inadequate in explaining SLA in the population used in this study. Additionally, the study compared motivational and aptitudinal variables as predictors of SLA. The strongest predictor was an aptitudinal scale, the number learning scale of the MLAT. Motivational variables were significant only in the case of speaking.

The apparent superiority of language aptitude over motivational and attitudinal variables challenges the theoretical basis of the socioeducational model when the learners are elementary students learning English as a second language. There were two additional findings. The first was that gender had no effect in the use of language strategies, but it had a limited effect in SLA, with higher means for boys. The second was that the effect of age also had a limited effect in the

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development of motivational variables. Both motivational intensity and self-confidence decreased with age.

The results of the present study question the validity of the socioeducational model in elementary school Hispanic students. More than singling out a factor or variables as having a more important role in the acquisition of a second language, the present study presents a view of the complexity of this process. The author hopes that the present study will encourage further studies that clarify how students acquire a second language and that this knowledge reaches schools and classrooms to the benefit of second language learners.

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APPENDIX A

HANDOUT FOR TEACHER TRAINING

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Dear teacher:

Thank you for helping me with the data collection for my study. This study is going to help understand how bilingual students learn English. The study also has approval from the Office of Research Compliance at NIU, from the bilingual office, and from the district. This document explains some aspects of importance to data collection.

1. Rights of students

- Students can refuse participation.
- Students can stop participating if they so decide.
- Scores and results should be kept confidential.
- If a student feels emotionally affected by the test, talk to him/her. He/She can be excused from the test or even sent to the social worker.
- The phone number of my advisor and the Office of Research Compliance is on the letter of consent; parents can call them if they feel the need.

2. Consent and Assent

Participant students and their parents need to be aware of their rights. In order to do this, parents need to give their consent and students their assent to participate.

Please send home with students two letters of "Permiso para Participar." Parents can keep one and return the other to school. Please collect the letters.

Once you have all the letters from parents who granted permission, give students two letters of "Asentimiento para Participar." They can keep one and give the other to you.

Please collect the letters.

Only students with proper permission will participate in the study.

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3. How to administer the "How We Learn English" instrument

- This instrument can be administered in four sessions of between 15 and 20 minutes.
- Ask students to write their name on the top of first page. Read the instructions of "Cómo Aprendemos Inglés"; ask students if they understand them.
- Read each item, including the answer choices. It can be something like this:

"Si están por completo en desacuerdo, pongan una marca en la primera casilla. Si están en desacuerdo, pongan una marca en la segunda casilla. Si están completamente de acuerdo, pongan una marca en la ultima casilla, si solamente están de acuerdo, pongan una marca en la penúltima casilla. Y si no saben si están de acuerdo o no, pongan una marca en la casilla de en medio."

- *Tell students to stop on each of the signs that say "End of session."*
- The value of the information that students provide will depend on the variability of their answers. Those students that only mark "Strongly agree" because they think that is what teachers expect will not provide valuable information. Those students whose answers cover several response options will provide valuable information. Encourage students to use several options to express their opinions.
- If a students is absent and missed a section of the instrument, he can complete that session by himself.
- When finished, collect the instrument.

4. How to administer the MLAT-ES.

- You can plan about one hour if you want your students to take it in one session, or about two thirty-minute sessions.
- Make sure students have a pencil. Answer information on the cover of the questionnaire.
- Tell students to listen to the instructions on the tape/CD.

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- Play the CD/cassette.
- When finished, collect questionnaires.

5. Additional data.

Besides "How We Learn English" and the MLAT-ES, I need the following:

- A copy of ACCESS for ELLs scores of your class (the consent letter includes permission to use these scores).
- List of students with date of birth and year they entered the bilingual program (can be obtained from the office).

6. Contact information

You can contact my advisor (Dr. Richard Orem, Department of Literacy Education, Northern Illinois University, telephone 815-753-1688), or the Office of Research Compliance at NIU (telephone 815-753-8588) if you have any concerns. You can contact me at _____ (Phone number_____) or by using the Novell e-mail.

THANK YOU FOR YOUR HELP!

Sincerely,

Ricardo Espinosa

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APPENDIX B

PERMISSION TO PARTICIPATE

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Permission to Participate

Dear Parent:

My name is Ricardo Espinosa, 4th grade bilingual teacher at _____ Elementary School. I am conducting a study that will allow me to finish my doctoral program at Northern Illinois University. The purpose of the study is to understand how bilingual students learn English. In order to do that, I need the students to respond to one questionnaire and a language aptitude test. The questionnaire will measure students' attitudes towards different aspects of the process of learning English. The language aptitude test will provide information about the ability of the child to learn a second language, in this case English. The estimated duration of the administration of these two instruments is about two hours and 10 minutes, and they will be administered in five sessions, the first four of about 20 minutes and the last of about one hour. Additionally, I will use the scores of the ACCESS for ELLs test, which is an English proficiency test given by the district to measure progress in English.

This study can help teachers understand what things are important when students are learning English. This information can be used to help students who are having trouble learning English.

Information used in this study will be kept confidential; that means that the names and scores of the participants will not be divulged.

Students can decide to not participate and there will be absolutely no consequences for their refusal to participate. Students who decide to participate can

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stop participating at any time and there will be absolutely no consequences to their decision. Additionally, you can contact the professor supervising this project (Dr. Richard Orem, Department of Literacy Education, Northern Illinois University, telephone 815-753-1688), and the Office of Research Compliance (telephone 815-753-8588), if you have any questions about the participation of your children in this study.

If you give your permission for your child to participate, please write your name and that of your child in the lines below and sign and return this letter to your child's teacher tomorrow.

Thank you

Ricardo Espinosa.

I _____give permission for my child_____ to participate in the research study conducted by Mr. Ricardo Espinosa.

Signature

_____

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APPENDIX C

ASSENT TO PARTICIPATE

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Assent to Participate

Dear Student:

My name is Ricardo Espinosa, 4th grade bilingual teacher at _____ Elementary School. I am conducting a study that will allow me to finish my doctoral program at Northern Illinois University. The purpose of the study is to understand how bilingual students learn English. In order to do that, I need the students to respond to one questionnaire and a language aptitude test. The questionnaire will measure students' attitudes towards different aspects of the process of learning English. The language aptitude test will provide information about the ability of the child to learn a second language, in this case English. The estimated duration of the administration of these two instruments is about two hours and 10 minutes, and they will be administered in five sessions, the first four of about 20 minutes and the last of about one hour. Additionally, I will use the scores of the ACCESS for ELLs test, which is an English proficiency test given by district to measure students' progress in English.

This study can help teachers understand what things are important when students are learning English. This information can be used to help students who are having trouble learning English.

Information used in this study will be kept confidential; that means that the names and scores of the participants will not be divulged.

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You can decide to not participate and there will be absolutely no consequences for your refusal to participate. If you decide to participate in the study, you can stop participating at any time and there will be absolutely no consequences to your decision.

If you want to participate, please write your name and sign the lines below and return this letter to your teacher tomorrow.

Thank you

Ricardo Espinosa.

I _____ agree to participate in the study conducted by Mr. Ricardo Espinosa. I also received a copy of this letter.

_____

(Signature)

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APPENDIX D

PERMISO PARA PARTICIPAR

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Permiso para Participar

Estimados Padres:

Mi nombre es Ricardo Espinosa, maestro de 4o. grado en la Escuela Elemental _____. Estoy conduciendo un estudio que me permitirá terminar mi programa de doctorado en la Northern Illinois University. El propósito del estudio es comprender cómo los estudiantes bilingües aprenden ingles. Para lograr esto, necesito que los estudiantes respondan a un cuestionario y una prueba de aptitud de lenguaje. El cuestionario medirá las actitudes de los estudiantes hacia diferentes aspectos del proceso de aprendizaje del inglés. La prueba de aptitud de lenguaje proveerá información acerca de la habilidad de los estudiantes para aprender un segundo idioma, en este caso inglés. La duración estimada de la administración de estos dos instrumentos es de dos horas 10 minutos aproximadamente, y serán administrados en cinco sesiones, las primeras cuatro de cerca de 20 minutos y la última de aproximadamente una hora. Adicionalmente usaré los resultados de la prueba ACCESS for ELLs, que es una prueba de aprovechamiento en inglés que da el distrito para medir el progreso en inglés.

Este estudio puede ayudar a los maestros a entender qué cosas son importantes cuando los estudiantes están aprendiendo inglés. Esta información puede ser usada para ayudar a estudiantes que están teniendo problemas aprendiendo inglés.

La información usada en este estudio será confidencial, esto significa que los nombres de los participantes y sus puntajes no serán divulgados.

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Los estudiantes pueden decidir no participar y no habrá absolutamente ninguna consecuencia por rehusarse a participar. Los estudiantes que decidan participar pueden dejar de participar en cualquier momento y no habrá absolutamente ninguna consecuencia por su decisión. Adicionalmente usted puede contactar al profesor que supervisa este proyecto (Dr. Richard Orem, Department of Literacy Education, Northern Illinois University, número de teléfono 815-753-1688), y a la oficina de la universidad que supervisa los estudios que usan sujetos humanos (Office of Research Compliance, número de teléfono 815-753-8588), si usted tiene preguntas acerca de la participación de su hijo(a) en este estudio.

Si usted da su permiso para que su hijo(a) participe, por favor escriba su nombre y el de su hijo(a) en las líneas de abajo y firme y regrese esta hoja al maestro(a) de su hijo(a) mañana.

Gracias,

Ricardo Espinosa.

Yo, _____ doy permiso para que mi hijo(a), _____, participe en el estudio de investigación conducido por Mr. Ricardo Espinosa. También he recibido copia de esta carta.

_____

Firma

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APPENDIX E

ASENTIMIENTO PARA PARTICIPAR

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Asentimiento para Participar

Estimado estudiante:

Mi nombre es Ricardo Espinosa, maestro de 4o. grado en la Escuela Elemental _____. Estoy conduciendo un estudio que me permitirá terminar mi programa de doctorado en la Universidad del Norte de Illinois. El propósito del estudio es entender cómo los estudiantes bilingües aprenden ingles. Para lograr esto, necesito que los estudiantes respondan a un cuestionario y una prueba de aptitud de lenguaje. El cuestionario medirá lo que piensan los estudiantes respecto cómo se aprende inglés. La prueba de aptitud de lenguaje me dará información acerca de la habilidad de los estudiantes para aprender un segundo idioma, en este caso inglés. La duración estimada de tomar estos dos instrumentos es de dos horas 10 minutos aproximadamente, y serán administrados en cinco sesiones, las primeras cuatro de cerca de 20 minutos y la última de aproximadamente una hora. Adicionalmente usaré los resultados de la prueba ACCESS for ELLs, que es la prueba de aprovechamiento en inglés que da el distrito para medir el progreso en inglés.

Este estudio puede ayudar a los maestros a entender qué cosas son importantes cuando los estudiantes están aprendiendo inglés. Esta información puede ser usada para ayudar a estudiantes que están teniendo problemas aprendiendo inglés.

La información usada en este estudio será confidencial, esto significa que los nombres de los participantes y sus puntajes no serán divulgados.

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Los estudiantes pueden decidir no participar y no habrá absolutamente ninguna consecuencia por rehusarse a participar. Los estudiantes que decidan participar pueden dejar de participar en cualquier momento y no habrá absolutamente ninguna consecuencia por su decisión.

Si deseas participar, por favor escribe tu nombre y firma en las líneas de abajo y regresa esta carta a tu maestro mañana.

Gracias,

Ricardo Espinosa.

Yo, _____ acepto participar en el estudio de investigación conducido por Mr. Ricardo Espinosa. También he recibido copia de esta carta.

_____

Firma

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APPENDIX F

HOW WE LEARN ENGLISH

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Name_____

How We Learn English

This is not a test, just a way for us to find out how bilingual students learn English. The information you provide will not be used for grades.

There are no wrong answers. Any answer you give is correct as long as it is TRUE for you. We want to know what you think, not what anyone else thinks.

Below is a list of statements dealing with the way you learn English. If you STRONGLY AGREE, put a mark in the first box. If you AGREE with the statement, but not strongly, put a mark in the second box. If you DISAGREE, but not strongly, put a mark in the fourth box. If you STRONGLY DISAGREE, put a mark in the last box. Finally, if you don't agree nor disagree with the statement, put a mark in the box in the middle.

To show you how to use the questionnaire, we will do some practice questions together.

Item 1:

Field trips are fun

Select *"Strongly agree"* if you completely agree with the statement.

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Select *"Agree"* if you agree with the statement, but not completely.

Select *"Disagree"* if you disagree with the statement, but not completely.

Select *"Strongly disagree"* if you disagree completely with the statement.

Select *"Undecided"* if you do not agree or disagree.

Remember, you have five options to express your answer.

	Strongly Agree	Somewhat agree	Undecided	Somewhat disagree	Strongly disagree
Field trips are fun.					

Here is another example:

Item 2:

Learning new words in English is more difficult than learning math.

	Strongly Agree	Somewhat agree	Undecided	Somewhat disagree	Strongly disagree
Learning new words in English is more difficult than learning math.					

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Remember, try to answer as truthfully as you can. Wait for your teacher to read each item.

		Strongly agree	Somewhat agree	Undecided	Somewhat disagree	Strongly disagree
1	I would like to learn more about the customs of Americans.					
2	Most Americans are very friendly.					
3	Americans are very sociable, kind, and creative people.					
4	I would like to know more about Americans.					
5	The more I get to know Americans, the more I want to speak English well.					
6	The more I know about Americans, the more I like them.					
7	Americans appreciate Mexican culture.					
8	Americans do treat Hispanics well.					
9	Americans like Spanish-speaking people.					
10	I like Americans.					
11	English is really great.					
12	I really enjoy learning English.					
13	I love learning English.					
14	I plan to learn as much English as possible.					
15	Bilingual teachers should teach more English.					
16	English is one of my favorite subjects.					
17	I find the study of English fun.					
18	Learning English is a good use of my time.					

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		Strongly agree	Somewhat agree	Undecided	Somewhat disagree	Strongly disagree
19	When I finish this course, I will try to learn more English because I am very interested in it.					
20	Learning English is good for any person.					
21	If I could, I would spend most of my time learning English.					
22	I want to learn English so well that it becomes as easy as Spanish to me.					
23	I would like to learn as much English as possible.					
24	I wish I could speak English as well as the Americans.					
25	Knowing English is really an important goal in my life.					
26	I want to learn English for many more years.					
27	My desire to learn English is higher now than before.					
28	I desire to learn English.					
29	I want to learn more than just the basics of English.					
30	I wish I had begun learning English earlier.					

STOP: End of session 1.

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		Strongly agree	Somewhat agree	Undecided	Somewhat disagree	Strongly disagree
31	I feel unsure of myself when I am speaking in our English class.					
32	It embarrasses me to participate in our English class.					
33	It worries me that other students in my class speak English better than I do.					
34	I get nervous when I am speaking English in my class.					
35	I am sometimes afraid the other students will laugh at me when I speak English.					
36	I get anxious when I have to respond to a question in my English class.					
37	I feel I lack confidence when asked to participate in my English class.					
38	I get anxious when I am asked for information in English in my class.					
39	I do not understand students that get nervous when using English in class.					
40	Students who claim that they get nervous when they speak English are just making excuses.					
41	I would get nervous if I had to speak English on the telephone.					
42	I would feel uncomfortable speaking English under any circumstances.					
43	I feel anxious if someone asks me something in English.					
44	When called upon to use my English, I feel very much at ease.					
45	It bothers me to speak in English.					

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		Strongly agree	Somewhat agree	Undecided	Somewhat disagree	Strongly disagree
46	I would feel quite nervous if I had to ask street directions in English.					
47	I would feel uncomfortable speaking English in a gathering with friends.					
48	I would feel uncomfortable if I had to order a meal in English.					
49	I would get nervous if I had to speak English in a store.					
50	Speaking English bothers me.					
51	Studying English is important because it makes me look more intelligent.					
52	Studying English is important because it will give an advantage in competing with others.					
53	Studying English is important to me because it will some day be useful in getting a good job.					
54	Studying English is important to me because it will allow me to influence others.					
55	Studying English is important because it will allow me to meet and talk with more people.					
56	Studying English is important because it will allow me to participate more in activities with Americans.					
57	Studying English is important because it will allow me to make good friends among Americans.					

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		Strongly agree	Somewhat agree	Undecided	Somewhat disagree	Strongly disagree
58	Studying English is important because it will allow me to better understand American culture.					
59	I would really like to learn many foreign languages.					
60	I wish I could speak another language perfectly.					
61	I often wish I could read newspapers and magazines in another language.					
62	If I planned to stay in another country, I would make the effort to learn the language of that country.					
63	I enjoy meeting and listening to people who speak other languages.					
64	Studying a foreign language is a nice experience.					
65	Most foreign languages sound crude and harsh.					
66	I am interested in learning other languages.					
67	I prefer to see a movie in Spanish than one in a different language.					
68	It is important for Hispanics to learn other languages.					
69	I always try to understand all the English I see and hear.					
70	I improve my English by practicing it every day.					

STOP: End of session 2.

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		Strongly agree	Somewhat agree	Undecided	Somewhat disagree	Strongly disagree
71	When I have a problem understanding something we learn in English, I always ask my teacher for help.					
72	I really work hard to learn English.					
73	When I am studying English, I ignore distractions and try to learn as much as I can.					
74	I pay attention to the advice I receive in my English class.					
75	I do my English homework with care and attention.					
76	I check my assignments after being corrected by the teacher.					
77	I continue to pay attention even when the teacher goes off on a tangent.					
78	I feel more confident when I need to use my English than others who know as much English as I do.					
79	I'm as sure of myself using my English as anybody else who knows as much English as I do.					
80	I am as confident using English as other students who know as much English as I do.					
81	I have as much confidence in my English skills as others who know as much English as I do.					
82	I can communicate in English as well as others who know as much English as I do.					
83	I'm sure I could speak English well in almost any situation.					

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		Strongly agree	Somewhat agree	Undecided	Somewhat disagree	Strongly disagree
84	When the English language is spoken to me, I feel I can understand most of it.					
85	I feel comfortable practicing my English almost any time and place.					
86	I believe that I can read and understand most books and stories written in English.					
87	Despite the fact that I may not speak English like an American, I feel confident using my English.					
88	Despite the fact that I may not speak English like an American, I feel sure using my English.					
89	Even when I make mistakes speaking English, I still feel I can communicate in English.					
90	I am confident when having conversations with Americans, despite the errors I make.					
91	It does not matter how much English I know, I feel confident using it.					
92	I feel confident using English, even though I may not speak English well.					
93	When I learn new things I think of how to connect them to the things I already know.					
94	I practice new words in English in sentences so I can remember them.					
95	I connect the sound of a new English word with an image or a picture of the word to help me remember the word.					

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		Strongly agree	Somewhat agree	Undecided	Somewhat disagree	Strongly disagree
96	I remember a new English word by thinking of a situation in which the word might be used.					
97	I use rhymes to remember new English words.					
98	I use the word wall to remember new English words.					
99	I act out new English words.					
100	I review English lessons often.					
101	I remember new English words or phrases by remembering the page of the book or the street sign where I read them.					
102	I say or write new English words several times.					
103	I try to talk like the Americans.					
104	I practice the sounds of English.					
105	I use the English words I know in different ways.					
106	I start conversations in English.					
107	I watch English language TV shows spoken in English and go to movies spoken in English.					
108	I read in English because I like it.					
109	I write notes, messages, letters or school reports in English.					
110	I first read over an English passage and then go back and read carefully.					

STOP: End of session 3.

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		Strongly agree	Somewhat agree	Undecided	Somewhat disagree	Strongly disagree
111	I look for words in Spanish that are similar to the words I am learning in English.					
112	I find the meaning of an English word by dividing it into parts that I understand.					
113	I try to translate word-for-word.					
114	I make summaries of information that I hear or read in English.					
115	To understand unfamiliar English words, I sometimes guess their meaning.					
116	When I can't think of a word in English, I use gestures.					
117	I make up new words if I do not know the right ones in English.					
118	I read English without looking up every new word.					
119	I try to guess what the other person will say next in English.					
120	If I can't think of an English word, I use a word or phrase that means the same thing.					
121	I try to find as many ways as I can to use my English.					
122	I notice my English mistakes and use that information to improve my English.					
123	I pay attention when someone is speaking English.					
124	I try to find out how to be a better learner of English.					

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		Strongly agree	Somewhat agree	Undecided	Somewhat disagree	Strongly disagree
125	I plan my schedule so I will have enough time to practice English.					
126	I look for people I can talk to in English.					
127	I look for opportunities to read as much as possible in English.					
128	I know what English skills I need to improve.					
129	I reflect about my progress in learning English.					
130	I try to relax whenever I feel nervous using my English.					
131	I encourage myself to speak English even when I am afraid of making a mistake.					
132	I give myself a reward or treat when I do well in English.					
133	I notice if I am tense or nervous when I am studying or using English.					
134	I talk to someone else about how I feel when I am learning English.					
135	If I do not understand something in English, I ask the other person to slow down or say it again.					
136	I ask English speakers to correct me when I talk.					
137	I practice English with other students.					
138	I ask for help from English speakers.					
139	I ask questions in English.					
140	I try to learn about the culture of Americans.					

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		Strongly agree	Somewhat agree	Undecided	Somewhat disagree	Strongly disagree
141	My teacher helps me to learn English.					
142	I learn a lot of English from my teacher.					
143	What I learn from my teacher helps me to improve my English.					
144	My teacher helps me to understand more English.					
145	My teacher knows how to teach English.					
146	I know more English now because of what I am learning in my English class.					
147	I have improved how I read in English in my English class.					
148	I have improved my writing in my English class.					
149	I can practice my English in my English class.					
150	My English class is a good place to learn English.					

STOP: End of session 4.

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APPENDIX G

COMO APRENDEMOS INGLES

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Nombre_____

Como Aprendemos Ingles

Esta no es una prueba, es sólo una forma para que sepamos como aprenden inglés nuestros estudiantes bilingües. La información que nos proporciones no será usada para calificaciones.

No hay respuestas equivocadas. Cualquier respuesta que des es correcta siempre que sea VERDADERA para ti. Queremos saber lo que tú piensas, no lo que otras personas piensan.

Debajo está una lista de oraciones que se refieren a la manera en que aprendes inglés. Si tu estás COMPLETAMENTE DE ACUERDO, pon una marca en el primer recuadro. Si tu estás DE ACUERDO con la oración, pero no completamente, pon una marca en el segundo recuadro. Si estás EN DESACUERDO, pero no completamente, pon una marca en el cuarto recuadro. Si tu estás COMPLETAMENTE EN DESACUERDO, pon una marca en el último recuadro. Finalmente, si no estás de acuerdo ni en desacuerdo, pon una marca en el recuadro de en medio.

Para mostrarte cómo usar el cuestionario, haremos unas preguntas de práctica juntos.

Pregunta 1:

Los paseos escolares son divertidos.

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- Selecciona *"Completamente de acuerdo"* si estás por completo de acuerdo con la oración.
- Selecciona *"De acuerdo"* si estás de acuerdo con la oración, pero no completamente.
- Selecciona *"En desacuerdo"* si estás en desacuerdo con la oración, pero no completamente.
- Selecciona *"Completamente en desacuerdo"* si estás completamente en desacuerdo con la oración.
- Selecciona *"Indeciso"* si no estás de acuerdo ni en desacuerdo.

Recuerda que hay cinco opciones para expresar tu respuesta.

	Completamente de acuerdo	De acuerdo	Indeciso	En desacuerdo	Completamente en desacuerdo
Los paseos escolares son divertidos.					

Aquí hay otro ejemplo:

Pregunta 2:

Aprender nuevas palabras en inglés es más difícil que aprender matemáticas.

	Completamente de acuerdo	De acuerdo	Indeciso	En desacuerdo	Completamente en desacuerdo
Aprender nuevas palabras en inglés es más difícil que aprender matemáticas.					

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Recuerda, trata de contestar tan honestamente como puedas. Espera a que tu maestra(o) te lea cada pregunta.

		Completamente de acuerdo	De acuerdo	Indeciso	En desacuerdo	Completamente en desacuerdo
1	Me gustaría saber más acerca de las costumbres de los americanos.					
2	La mayoría de los americanos son muy amigables.					
3	Los americanos son amistosos, amables y creativos.					
4	Me gustaría saber más acerca de los americanos.					
5	Entre más sé de los americanos, más quiero hablar inglés bien.					
6	Entre mas aprendo de los americanos, más bien me caen.					
7	Los americanos aprecian la cultura mexicana.					
8	Los americanos tratan bien a los hispanos.					
9	A los americanos les gusta la gente que habla español.					
10	Los americanos me caen bien.					
11	El ingles es bien bonito.					
12	Yo disfruto al aprender inglés.					
13	Me gusta aprender inglés.					
14	Yo planeo aprender tanto inglés como pueda.					
15	Los maestros bilingües deberían enseñar más inglés.					
16	El inglés es una mis materias favoritas.					
17	Estudiar inglés es divertido.					
18	Aprender inglés es aprovechar bien el tiempo.					

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		Completamente de acuerdo	De acuerdo	Indeciso	En desacuerdo	Completamente en desacuerdo
19	Cuando termine este curso, voy a tratar de aprender más inglés por que me interesa mucho.					
20	Saber ingles es bueno para cualquier persona.					
21	Si pudiera pasaría la mayoría de mi tiempo aprendiendo inglés.					
22	Yo quiero aprender inglés tan bien que me sea tan fácil como el español.					
23	Me gustaría aprender tanto inglés como sea posible.					
24	Me gustaría hablar inglés tan bien como los americanos.					
25	Aprender inglés es una meta importante en mi vida.					
26	Yo quiero aprender inglés por muchos años más.					
27	Mi deseo de aprender inglés es mas grande ahora que antes.					
28	Yo deseo aprender inglés.					
29	Yo quiero aprender más que solo los fundamentos del inglés.					
30	Me gustaría haber empezado a aprender ingles desde antes que cuando empecé.					

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Principia sesión 2.

		Completamente de acuerdo	De acuerdo	Indeciso	En desacuerdo	Completamente en desacuerdo
31	Me siento inseguro de mí mismo cuando hablo inglés en mi clase.					
32	Me da pena hablar en inglés en mi clase.					
33	Me preocupa que otros estudiantes de mi clase hablan inglés mejor que yo.					
34	Me pongo nervioso cuando hablo inglés en mi clase.					
35	A veces me da miedo que otros estudiantes se vayan a reír de mi cuando yo hablo inglés.					
36	Me pongo ansioso cuando tengo que responder una pregunta en ingles en mi clase.					
37	Siento que me falta confianza cuando participo en inglés en mi clase.					
38	Me siento ansioso cuando me piden información en inglés en la clase.					
39	No entiendo a los alumnos que se ponen nerviosos al usar ingles en la clase.					
40	Los estudiantes que dicen que se ponen nerviosos al hablar ingles solo están inventando excusas.					
41	Yo me pondría nervioso si tuviera que hablar inglés por teléfono.					
42	Yo me sentiría incómodo de hablar inglés en cualquier situación.					
43	Yo me siento ansioso si alguien me pregunta algo en inglés.					
44	Cuando me piden que use mi inglés, me siento tranquilo.					
45	Me molesta hablar en inglés.					

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		Completamente de acuerdo	De acuerdo	Indeciso	En desacuerdo	Completamente en desacuerdo
46	Yo me siento muy nervioso si tengo que preguntar direcciones en inglés.					
47	Yo no me siento cómodo hablando inglés con amigos.					
48	Yo me siento incómodo si tengo que ordenar mi comida en inglés.					
49	Yo me pondría nervioso si tuviera que hablar inglés en una tienda.					
50	Hablar ingles me molesta.					
51	Estudiar inglés es importante porque hace que me vea mas inteligente.					
52	Estudiar inglés es importante porque me da ventaja cuando compita con otros.					
53	Estudiar inglés es importante porque algún día me ayudará a conseguir un buen trabajo.					
54	Estudiar inglés es importante para mí porque así yo puedo tener influencia en a otros.					
55	Estudiar inglés es importante porque me permitirá conocer y platicar con más gente.					
56	Estudiar inglés es importante porque me permitirá participar más en actividades con americanos.					
57	Estudiar inglés es importante porque me va a permitir hacer buenos amigos con los americanos.					

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		Completamente de acuerdo	De acuerdo	Indeciso	En desacuerdo	Completamente en desacuerdo
58	Estudiar inglés es importante porque me va a permitir entender mejor la cultura americana.					
59	De veras me gustaría aprender muchos idiomas.					
60	Yo quisiera poder hablar otros idiomas a la perfección.					
61	A veces quisiera poder leer periódicos y revistas en otro idioma.					
62	Si yo planeara visitar otro país, yo haría el esfuerzo de aprender el idioma de ese país.					
63	Me gusta escuchar y juntarme con personas que hablan otros idiomas.					
64	Estudiar otros idiomas es una bonita experiencia.					
65	La mayoría de los idiomas de otros países suenan bonito.					
66	Me interesa saber de otros idiomas.					
67	Yo prefiero ver una película hablada en español que una en otro idioma.					
68	Es importante para los hispanos aprender otros idiomas.					
69	Yo siempre trato de entender todo lo que yo vea o escuche en inglés.					
70	Yo mejoro mi inglés practicándolo a diario.					

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Principia sesión 3.

		Completamente de acuerdo	De acuerdo	Indeciso	En desacuerdo	Completamente en desacuerdo
71	Cuando tengo algún problema para entender algo que aprendimos en inglés, yo siempre le pido a mi maestra/o que me ayude.					
72	Yo de veras hago esfuerzo por aprender inglés.					
73	Cuando estoy estudiando inglés, yo no me distraigo y trato de aprender tanto como pueda.					
74	Yo le pongo atención a los consejos que recibo en mi clase de inglés.					
75	Yo hago mi tarea de inglés con cuidado y atención.					
76	Yo chequeo mis trabajos después de que el maestro los calificó.					
77	Yo sigo poniendo atención aún cuando el maestro cuenta cosas que no son de la escuela.					
78	Yo me siento con más confianza cuando uso mi inglés que otros que saben tanto inglés como yo.					
79	Yo me siento tan seguro de mi mismo como cualquier otro que sepa tanto inglés como yo.					
80	Yo me siento tan confiado usando inglés como otros estudiantes que saben tanto inglés como yo.					
81	Yo tengo tanta confianza en mis habilidades de inglés como otros que saben tanto inglés como yo.					
82	Yo puedo comunicarme en ingles tan bien como otros que saben tanto ingles como yo.					
83	Estoy seguro de que yo puedo hablar bien inglés en casi cualquier situación.					

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		Completamente de acuerdo	De acuerdo	Indeciso	En desacuerdo	Completamente en desacuerdo
84	Cuando me hablan en inglés, siento que puedo entender la mayoría de lo que me dicen.					
85	Me siento cómodo practicando mi inglés casi en cualquier lugar.					
86	Yo creo que yo puedo leer y entender la mayoría de los libros e historias escritos en inglés.					
87	A lo mejor yo no hablo inglés como un americano, pero me siento con confianza hablando inglés.					
88	A pesar de que a lo mejor yo no hablo inglés como un americano, me siento confiado al usar mi inglés.					
89	Aun cuando cometo errores al hablar inglés, siento que sí me puedo comunicar en inglés.					
90	Yo me siento confiado cuando tengo conversaciones con americanos, a pesar de los errores que cometo.					
91	No importa cuánto inglés sepa yo, me siento confiado usándolo.					
92	Me siento confiado usando mi inglés, aún cuando no lo hable muy bien.					
93	Cuando aprendo nuevas cosas, yo pienso en como conectarlas con las cosas que ya sé.					
94	Yo practico nuevas palabras en inglés en oraciones para que las pueda recordar.					
95	Yo conecto el sonido de una nueva palabra en inglés con una imagen o figura para ayudarme a recordar la palabra.					

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		Completamente de acuerdo	De acuerdo	Indeciso	En desacuerdo	Completamente en desacuerdo
96	Yo me acuerdo de nuevas palabras en inglés pensando en una situación en que se pueda usar esa palabra.					
97	Yo uso rimas para acordarme de las nuevas palabras en inglés.					
98	Yo uso la "Word Wall" para acordarme de nuevas palabras en inglés.					
99	Yo actúo las nuevas palabras en inglés.					
100	Yo repaso mis lecciones de inglés con frecuencia.					
101	Yo me acuerdo de nuevas palabras o frases recordando la página del libro o letrero de la calle en que las leí.					
102	Yo digo o escribo las palabras nuevas varias veces.					
103	Yo trato de hablar inglés como los americanos.					
104	Yo practico los sonidos del inglés.					
105	Yo uso las palabras en inglés que conozco de diferentes maneras.					
106	Yo comienzo conversaciones en inglés.					
107	Yo veo programas de televisión en inglés y voy al cine a ver películas en inglés.					
108	Yo leo en inglés porque me gusta.					
109	Yo escribo notas, mensajes, cartas o trabajos de la escuela en inglés.					
110	Yo primero hojeo rápido el texto que voy a leer en inglés y luego regreso y lo leo con cuidado.					

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Principia sesión 4.

		Completamente de acuerdo	De acuerdo	Indeciso	En desacuerdo	Completamente en desacuerdo
111	Yo busco palabras en español que se parezcan a las palabras que aprendo en inglés.					
112	Yo encuentro el significado de una palabra en inglés dividiéndola en partes que sí entiendo.					
113	Yo trato de traducir palabra por palabra.					
114	Yo hago resúmenes de la información que oigo o leo en inglés.					
115	Para comprender palabras en inglés que no conozco, yo a veces trato de adivinar lo que significan.					
116	Cuando no puedo pensar en una palabra en inglés, yo uso gestos.					
117	Yo invento palabras si no sé las que necesito en inglés.					
118	Yo leo en inglés sin buscar qué significa cada palabra nueva.					
119	Yo trato de adivinar lo que las otras personas van a decir en inglés.					
120	Si yo no puedo pensar en una palabra en inglés, yo uso una palabra o frase que signifique lo mismo.					
121	Yo trato de encontrar tantas maneras como pueda para poder usar mi inglés.					
122	Yo noto mis errores en inglés y uso esa información para mejorar mi inglés.					
123	Yo pongo atención cuando alguien está hablando inglés.					
124	Yo trato de aprender como ser un mejor estudiante de inglés.					

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		Completamente de acuerdo	De acuerdo	Indeciso	En desacuerdo	Completamente en desacuerdo
125	Yo planeo mi horario para tener suficiente tiempo para practicar inglés.					
126	Yo busco gente con quien practicar mi inglés.					
127	Yo busco oportunidades de leer tanto como me sea posible en inglés.					
128	Yo sé que habilidades tengo que mejorar para mejorar mi inglés.					
129	Yo reflexiono acerca de mi progreso en inglés.					
130	Trato de relajarme cuando me pongo nervioso al usar mi inglés.					
131	Yo me doy ánimos a mi mismo para hablar inglés aún cuando tengo miedo de cometer errores.					
132	Yo me doy premios o recompensas cuando hago algo bien en inglés.					
133	Yo noto si estoy tenso o nervioso cuando estoy estudiando o usando inglés.					
134	Yo hablo con personas acerca de cómo me siento cuando estoy aprendiendo inglés.					
135	Si no entiendo algo en inglés, le digo a la otra persona que hable mas despacio o que repita lo que dijo.					
136	Yo les pido a personas que hablan inglés que me corrijan cuando hablo en inglés.					
137	Yo practico mi inglés con otros estudiantes.					
138	Yo les pido ayuda a los que hablan inglés.					
139	Yo hago preguntas en inglés.					
140	Yo trato de aprender acerca de la cultura de los americanos.					

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		Completamente de acuerdo	De acuerdo	Indeciso	En desacuerdo	Completamente en desacuerdo
141	Mi maestro(a) me ayuda a aprender ingles.					
142	Yo aprendo bastante ingles de mi maestro(a).					
143	Lo que yo aprendo de mi maestro(a) me ayuda a mejorar mi ingles.					
144	Mi maestro(a) me ayuda a entender más ingles.					
145	Mi maestro(a) sabe como enseñar inglés.					
146	Sé más inglés ahora por lo que estoy aprendiendo en mi clase de inglés.					
147	He mejorado mi lectura en mi clase de inglés.					
148	He mejorado mi escritura en mi clase de inglés.					
149	Yo puedo practicar mi inglés en mi clase de inglés.					
150	Mi clase de inglés es un buen lugar para aprender inglés.					

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APPENDIX H

LIST OF VARIABLES AND THEIR CORRESPONDING ITEMS

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Variable	Items
Attitudes toward group	1 – 10
Attitudes toward learning English	11 - 20
Desire to learn English	21 - 30
English class anxiety	31 - 40
English use anxiety	41 - 50
Instrumental orientation	51 – 54
Integrative orientation	55 – 58
Interest in foreign languages	59 – 68
Motivational intensity	69 – 77
Self-confidence	78 – 92
Memory strategies	93 – 101
Cognitive strategies	102 – 114
Compensation strategies	115 – 120
Metacognitive strategies	121 – 129
Affective strategies	130 – 134
Social strategies	135 – 140
Teacher evaluation	141 – 145
Class evaluation	146 – 150

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